

MAR 23 1923

Vol. 20, No. 3

PSYCHOLOGICAL REVIEW PUBLICATIONS

March, 1923

Psychological Bulletin

EDITED BY

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PUBLISHED MONTHLY BY THE

PSYCHOLOGICAL REVIEW COMPANY

27-29 COLUMBIA STREET, ALBANY, N. Y.

AND PRINCETON, N. J.

AGENTS: G. E. STECHERT & CO., LONDON (2 Star Yard, Carey St., W.C.);
PARIS (16, rue de Condé)

Entered as second-class matter at the post-office at Albany, N. Y., September 25, 1922

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ALBANY, N. Y., AND PRINCETON, N. J.

FOREIGN AGENTS: G. E. STECHERT & CO., London (2 Star Yard, Carey St., W.C.) Paris (16, rue de Condé)

THE PSYCHOLOGICAL BULLETIN

1. GENERAL

157. BOLL, M., L'Intérêt Psychologique des Théories de la Relativité. *J. de Psychol.*, 1922, 19, 739-746.

Indicates the psychological interest in the theories of Lorentz, Einstein, and others. S. W. FERNBERGER (Pennsylvania).

158. SARTIAUX, F., Genese de la Metaphysique. *J. de Psychol.*, 1922, 19, 425-457.

The author believes that metaphysics developed from religious thought and beliefs. He traces the origin and form of metaphysical thought among the ancient Indians, Greeks, and considers medieval and modern beliefs. The divergent principles of the different metaphysical systems are noted: Greek metaphysica was pluralistic and impersonal; Christian is dualistic and personal. The author finds that metaphysics is a last effort for the retaining of religious ideas in the general scientific movement. S. W. FERNBERGER (Pennsylvania).

159. PAULHAN, F., Tendances et Faits Psychologiques. *J. de Psychol.*, 1922, 19, 385-411; 521-542.

Discussion as to whether tendencies (systematic groupings of phenomena) are the psychical elements. The various sorts of tendencies are characterized. The simplest type of tendency is the reflex. The more complex tendencies—the desires—involve images, ideas, and emotions. Mental elements are, from this point of view, the result of the breaking up of primitive tendencies. The author then considers the nature of social tendencies and the nature of intelligence. S. W. FERNBERGER (Pennsylvania).

160. MASSON-OUREL, P., Les Doctrines Indiennes de Psychologie Mystique. *J. de Psychol.*, 1922, **19**, 322-335.

A discussion of the relation of the physiological ideas and the religious ideas of the ancient East Indians as found in a study of the Vedas, and in the teaching of Yoga. S. W. FERNBERGER (Pennsylvania).

161. WECHSLER, D., Sur la Technique du Reflexe Psycho-Galvanique. *J. de Psychol.*, 1922, **19**, 172-177.

Description of a photographic method of recording the galvanic variations. S. W. FERNBERGER (Pennsylvania).

162. WELLS, W. R., The Fallacy of Exclusive Scientific Methodology. *Monist*, 1922, **32**, 471-480.

The fallacy of exclusive scientific methodology is the claim that science possesses the only valid method of knowledge, accompanied by the denial or ignoring of whatever cannot be studied by scientific method. Behaviorists of various schools—particularly Watson and Loeb—are guilty of this fallacy in neglecting consciousness as a unique fact, or in attempting to substitute a mechanistic conception. As a matter of fact consciousness is not an object of scientific method but belongs to purely philosophical study without, however, losing any of its importance thereby. A behaviorism which confines itself to the objective study of reactions, while admitting the reality and philosophical importance of consciousness, is highly desirable. Psychology, however, remains the study of consciousness, and the epithet of "arm chair psychologist" should really be welcomed as a compliment. Indeed "psychology will always be in part a philosophy of consciousness, or else it will be an incomplete psychology." C. M. DISERENS (Cincinnati).

163. TROLAND, L. T., The Significance of Psychical Monism for Psychological Theory. *Psychol. Rev.*, 1922, **29**, 201-212.

The present controversy regarding the problems and scope of psychology has failed to take account of the doctrine of psychical monism. "For the psychical monist, consciousness, or the psychical, is identical with individual experience at any instant. *Introspective psychology* is merely the straightforward description by any individual of his own experience in its own terms without addition or

subtraction from the given." The physical world is usually regarded as an actual existence but recent developments, which appear in the doctrines of Einstein, make space, time and mass relative to the observer. "In this situation what is more obvious than the idea that the external reality corresponding to the physical hypothesis is nothing at all other than the subject's actual field of experience, or consciousness?" Psychical monism eliminates the physical term from the psycho-physical dualism by reducing space, mass and time to the level of psychological categories. They are "merely certain characteristics of perception in terms of which it has been found possible to work out a symbolic formulation of the system of external reality." This doctrine, it is alleged, does away with the theoretical difficulties of parallelism and interactionism. P. T. YOUNG (Illinois).

164. FRANZ, S. I., Psychology and Psychiatry. *Psychol. Rev.*, 1922, 29, 241-250.

The paper discusses the interrelations of psychology, abnormal psychology, psychopathology and psychiatry. Psychiatry is an art, or an applied science, aiming to cure mental disease and it bears the same relation to the basic science of psychology as any art bears to its fundamental science; but psychiatry draws upon other sciences as well. Abnormal psychology and psychopathology are disciplines intermediate between psychology and psychiatry, but they do not exist as independent technologies. P. T. YOUNG (Illinois).

165. BODE, B. H., What is Psychology? *Psychol. Rev.*, 1922, 29, 250-259.

At the present time there are in psychology three rival standpoints. (1) There is the traditional psychology of mental states. This type of psychology is objectionable since it seems to invert the standpoint of common sense, and since it rests upon an antiquated metaphysics. Having no objective standards, it leads nowhere. (2) Behaviorism arises as an extreme reaction to the traditional psychology. It limits its scope to physical methods and aims to interpret behavior mechanistically in terms of reflexes. "On the side of body explanation is made to consist in the reference of all activities to certain purely hypothetical patterns or forms of reaction; on the side of the object it consists in the elimination of all traits or

characters that do not enjoy the recognition and protection of the physical sciences." (3) The remedy for the situation is a new standpoint. "What we need, first of all, is recognition and acceptance of experiential facts which would be obvious to everybody, if we were not corrupted in advance by antecedent bias." Psychology must face the study of purposive behavior and show how the human individual differs from a mechanism. P. T. YOUNG (Illinois).

166. PILLSBURY, W. B., Suggestions for a Compromise of Existing Controversies in Psychology. *Psychol. Rev.*, 1922, **29**, 259-267.

"My answer, then, to the question asked in the title of the paper is a negative. The conflicting tendencies are not to be harmonized. They are differences that have existed since the beginnings of thought. They are not amenable to investigation, because they are not matters of fact but of attitude." P. T. YOUNG (Illinois).

167. KANTOR, J. R., An Analysis of Psychological Language Data. *Psychol. Rev.*, 1922, **29**, 267-310.

Following are the paragraph headings of the paper: (I) The problem of language; (II) Differentiation of psychological from other language data—(1) The Anthropological data, (2) Philological language data, (3) Psychological language data; (III) What are the psychological characteristics of language? (a) Language as preceding reactions, (b) Language as accompanying reactions, (c) Language as following reactions, (d) Language as substitute reactions; (IV) Distinction between language and thought; (V) Modes of language reactions, (1) Morphological and functional language, (2) Expressive and communicative language, (3) Receptive and transmissive communicative reactions; (VI) Types of language reaction systems, (1) Primarily transmissive modes of language, (a) Vocal speech, (b) Vocal gesture, (c) Sub-vocal speech, (d) Non-vocal gesturing, (e) Making signs and symbols; (2) Primarily receptive reactions, (a) Reading and comprehension reactions, (b) Tactual receptive language reactions; (VII) The varied character of language phenomena, (1) Non-psychological language words, (2) Words as definite psychological data, (a) Words as stimuli, (b) Words as responses; (VIII) Summary. P. T. YOUNG (Illinois).

168. WEISS, A. P., Behavior and the Central Nervous System.
Psychol. Rev., 1922, 29, 329-344.

Using as a text Professor Warren's recent paper upon "Psychology and the Central Nervous System," the writer outlines the fundamental stages in a thoroughgoing behavioristic program. Behaviorism is defined as "the science that studies the origin and development of those bodily movements (reactions) of the organism which establish its social status. The three part problems are: (1) The stimulating condition, (2) sensory-cerebro-motor condition, (3) the overt reaction." It is important to draw a distinction between the biophysical and the social aspects of stimulus and reaction. "The concept 'social status' that occurs in the definition of behaviorism is to be thought of as the product of two factors: (1) The *specific factor* (*S*) according to which the individual is assigned as a participant in the educational, political, vocational, and recreational activities of the community. . . . (2) The *efficiency factor* (*E*) which indicates the position of the individual with respect to other individuals having the same specific factors."

Professor Warren's double-aspect view is considered and found to be unnecessary to the behaviorist. It means only "that the sensory-cerebro-motor processes of the subject are not the same as the sensory-cerebro-motor processes of the person who is observing him, and that they can never be the same because the two biophysical systems are not anatomically connected." Professor Warren's definition of thinking as "essentially a central nervous operation" is briefly discussed. "Evidently thinking may be defined in at least three ways: in terms of the product, the incipient reactions (imagery), and the central nervous operation. Is it not better to eliminate the word 'thought' altogether and substitute for it a description of the individual-social conditions. . . ." In the use of neural data, also, the behaviorist is not a neurologist. The behaviorists' problem is to investigate all the conditions determining the social status of the individual. P. T. YOUNG (Illinois).

169. FERNBERGER, S. W., Behavior versus Introspective Psychology.
Psychol. Rev., 1922, 29, 409-414.

Professor Fernberger advocates the separation of psychology as it exists to-day into two independent sciences: a science of consciousness and a science of behavior. "Both have their point of view, both

have their different interpretative categories, both have their distinct materials for observation, and both have their methods. Furthermore, both may be truly experimental and each may consistently be carried on from a single point of view." There remains the problem of correlating the two kinds of observational data and of relating these data to the facts of physiology. P. T. YOUNG (Illinois).

170. WARREN, H. C., The Significance of Neural Adjustment. *Psychol. Rev.*, 1922, **29**, 481-490.

The paper presents certain difficulties in the way of accepting the contentions of Professor Weiss in a recent article, "Behavior and the Central Nervous System." It is recommended that the term "behavior" be defined in such a way that "neural activity" be excluded from the connotation. The study of neural processes, however, is highly important for psychology since they form an intermediate link between stimulus and response. Also it is probable that imagination and thinking should be identified with neural, rather than with response phenomena. The facts of behavior comprise one of three groups of phenomena important for psychology. The other two are: the facts of neural processes and the facts of conscious life. P. T. YOUNG (Illinois).

171. LOELE, W., Struktur und Seele. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 140-149.

Spekulationen über die Beziehungen zwischen Zellstruktur und seelischen Vorgängen mit Hülfe von Antikörpern, lytischen Fermenten u. dgl. TH. ZIEHEN (Halle a/S.).

172. ROBACK, A. A., Behaviorism in the Light of Medicine. *J. of Abnor. Psychol. and Social Psychol.*, 1922, **17**, 88-92.

Dr. Roback joins forces with Dr. Jelliffe in punishing Dr. Watson for urging a behavioristic conception of mental diseases both in his *Psychology From the Standpoint of a Behaviorist* and more especially in an article, Behavior and the Concept of Mental Disease, *J. of Philos. Psychol., etc.*, 1916, **13**, p. 592. Psychiatry, after all, has based its concepts and terminology upon conservative dualistic psychology, and reasons for changing, it is alleged, especially for the Watsonian formulations, are woefully inadequate. D. A. MACFARLANE (Boston Psychopathic Hospital).

2. NERVOUS SYSTEM

173. LAPICQUE, L., *Le Poids du Cerveau et l'Intelligence.* *J. de Psychol.*, 1922, 19, 5-23.

The first part of this paper deals with the relative brain weights of a number of animals and of man. Then the author discusses the question of the relative brain weights of the two sexes in man. He shows that there can be little knowledge obtained from brain weights regarding intelligence as this is dependent on the number rather than on the size and mass of the constituent nerve elements. S. W. FERNBERGER (Pennsylvania).

174. BARBÉ, A., *L'Évolution Contemporaine de la psychiatrie et son Passage de la Psychologie à la Biologie.* *J. de Psychol.*, 1922, 19, 266-269.

The recent development of the study of the secretions and of the various sorts of physiological tests makes the study of mental diseases of to-day throw more emphasis on the biological aspects of the case than on the psychological. S. W. FERNBERGER (Pennsylvania).

175. MASSON-OURSEL, P., *De l'Utilisation de la Méthode Comparative comme Critère de la Positivité des Faits Psychologiques.* *J. de Psychol.*, 1922, 19, 270-287.

A brief attempt to employ the comparative method to the study of such problems as our representation of mental activity, of images, and of ideas. S. W. FERNBERGER (Pennsylvania).

3. SENSATION AND PERCEPTION

176. VERRIER, P., *L'Ecart d'Isochronisme dans le Rhythme.* *J. de Psychol.*, 1922, 19, 289-321.

An analysis of poetry and prose in French, German and English. In speaking or singing the unit point of departure is the quantitative syllable—in music it is the note. A mathematical classification of intervals is discussed. S. W. FERNBERGER (Pennsylvania).

177. PIÉRON, H., Sur la Signification Physiologique des Lois Dites "Psychophysiques." *J. de Psychol.*, 1922, **19**, 365-371.

The application of the Weber-Fechner law has become very widespread in the general field of physiology and biology. The author shows some of the implications of this law for the biological sciences. S. W. FERNBERGER (Pennsylvania).

178. BARD, L., Les Bases Physiologiques de la Perception du Temps. *J. de Psychol.*, 1922, **19**, 119-146.

A distinction is drawn between our ideas of space and our ideas of time. The author believes that these are opposed to one another in all of their qualitative details. Bard believes that our quantitative judgments are just as immediate as are our qualitative sensations and perceptions and in neither case is the mediate mental image essential. The temporal aspect is present for all modalities of sensation. The author attempts to explain these notions in physiological terms. S. W. FERNBERGER (Pennsylvania).

179. BONAVVENTURA, E., Signification et Valeur de la Psycho-physique. *J. de Psychol.*, 1922, **19**, 481-491.

Review of some of the experimental work in psychophysics. The author points out that in this work the choice of the criteria of judgment have been rational. The precision of judgment has a limit imposed on it by the sensory acuity of the modality under observation. The importance of psychophysics for all of psychology is indicated. S. W. FERNBERGER (Pennsylvania).

180. WEBER, C. O., The Psycho. Genesis of Space. *Monist*, 1922, **32**, 449-465.

The title of this paper is somewhat misleading since the treatment of the problem is metaphysical rather than psychological. The author, writing in the spirit of De Morgan and also of Bergson, seeks to reverse the theory of Minkowski, that time and motion may be reduced to spatial terms. A comparison of mathematical with real or psychological time, leads to a critique of Newton's and Einstein's doctrines of time and space, both of which as structures apart from experience are said to involve irreconcilable assumptions. Time as the condition and perhaps essence of all experience is the only legitimate absolute, and as such is the basis of space instead of

being a dimension of the latter. Space is a kind of condensed or stratified time, representing the past achievement of life, retained as a projection ground for new advances. C. M. DISERENS (Cincinnati).

181. LADD-FRANKLIN, C., Practical Logic and Color Theories. *Psychol. Rev.*, 1922, **29**, 180-201.

By practical logic is meant the search for adequate premises, and not the theoretical discussions of the logician. The field of color theory offers a splendid opportunity for the study of errors in scientific reasoning. A satisfactory theory must take account of all the facts of color sensation. Among recent theories which sin against fundamental methodological principles are those of Mr. Troland. The writer discusses Mr. Troland's attitude and objections to her well-known color theory. P. T. YOUNG (Illinois).

182. WHEELER, R. H., and CUTSFORTH, T. D., Synesthesia, a Form of Perception. *Psychol. Rev.*, 1922, **29**, 212-221.

The paper presents and discusses introspective data from the junior author, a blind synesthetic subject. It is concluded that the subject does not perceive without a stereotyped visual image. This is true for every sense modality. For the subject, it is alleged, sensations have no attributes. P. T. YOUNG (Illinois).

183. FERREE, C. E., and RAND, G., The Effect of Variations of the Intensity of the Illumination of the Perimeter Arm on the Determination of the Color Fields. *Psychol. Rev.*, 1922, **29**, 457-474.

By a sufficiently wide variation of the intensity of stimulus "the fields of color sensitivity may be made to have almost any breadth in the field of vision, to differ radically in shape, and even to change or reverse their order of ranking as to breadth. . . ." The relation between the intensity of illumination and the size and shape of the color fields is presented clearly in a series of maps. P. T. YOUNG (Illinois).

184. JAENSCH, E. R., Ueber Raumverlagerung und die Beziehung von Raumwahrnehmung und Handeln. *Zeit. f. Psychol.*, 1922, **89**, 116-176.

Die an anderer Stelle von Jaensch prinzipiell geforderte und am Beispiel des Streckenvergleichs veranschaulichte Nutzbarmachung

psychologischer Untersuchungen für Grundfragen der Philosophie wird hier an einem weiteren Beispiele durchgeführt. Jaensch beweist durch Versuche an eidetischen Individuen die Abhängigkeit der im Anschauungsbild relativ häufigen Raumverlagerungen von der vorherrschenden, durch Interesse oder Willen gelenkten, Aufmerksamkeitsrichtung. Er weist der Raumverlagerung, die sich bei manchen eidetischen Individuen auch bei der Wahrnehmung beobachten lässt, eine wichtige Funktion in der Entwicklung des Denkens zu, insofern sie als Zerspaltung der Komplexe wirkt und damit der trennenden Funktion des Denkens vorarbeitet. Ihre Bedeutung erstreckt sich im Besonderen auch auf die Akte des Wiedererkennens, sowie auf das Gedankenexperiment. Die Beziehungen der Raumverlagerung zum Handeln ergeben sich bei Versuchen, in denen durch Verlagerungsscheinungen im subjektiven optischen Anschauungsbild, aber auch im Wahrnehmungsbild, optische Verbindungen hergestellt werden, durch die die Erreichung eines Ziels (Heranholen eines Apfels mit Hilfe eines danebenliegenden Stocks usw.) in der Anschauung realisiert wird. Die Versuche an optoiden Organismen (etwa Köhlers Versuche an Schimpansen) erklärt Jaensch in enger Analogie zu seinen Befunden. Demnach ist nicht die "Einsicht in den inneren Zusammenhang zweier Dinge" die Grundlage ihrer Leitungen, sondern: Die Züge, die im Sehfeld unter dem Einfluss der optischen Aufmerksamkeit auftreten und den Transport der Sehdinge herbeiführen, bestimmen im primitiven Handeln optoider Wesen auch den Transport der wirklichen Dinge, indem sie Körper und Gliedmassen so dirigieren, dass dieser Transport nach Massgabe jener Züge zustande kommt."

O. KROH (Göttingen).

185. LACHMUND, H., Ueber die Abhängigkeit der scheinbaren Schallstärke von der subjektive Lokalisation der Schallquelle, ein Analogon zu den sogenannten zentralen Faktoren des Farbensehens. *Zeits. f. Psychol.*, 1922, 88, 53-55.

Durch geeignete Versuche wird nachgewiesen, dass beim binaurealen Hören auch dann, wenn beide Ohren von objektiv gleich starken Reizen getroffen werden und die, fast für jedes Individuum bestehende, verschiedene Empfindlichkeit beider Ohren ausgeglichen ist, das der Schallquelle zugewandte Ohr den Ton bedeutend lauter hört als das andere. Hier besteht also eine rein subjektive

Verstärkung des einen Tones, die auf Erfahrungseinflüsse zurückgeführt und zu den auf optischen Gebiet bekannten Erscheinungen der Gedächtnisfarben in Parallele gestellt wird. O. KROH (Göttingen).

186. LACHMUND, H., Vokal und Ton. *Zeits. f. Psychol.*, 1922, **88**, 1-52.

Lachmund setzt die akustischen Untersuchungen von Jaensch (Z. f. Sinnesphysiologie Bd. 47, S. 219 ff. und Bericht über den 6. Kongress für experimentelle Psychologie Göttingen 1914) fort. Er bedient sich dabei der schon von Jaensch verwandten Versuchsanordnung: Eine mit einem Telefon verbundene Selenzelle wird durch einen Spalt beleuchtet, der durch den wellenförmig ausgeschnittenen Rand einer rotierenden Scheibe mehr oder weniger stark verdeckt wird. So entstehen im Telefon Schallwellen, deren Verlauf durch die Änderungen des Scheibenrandes bestimmt wird. Schon Jaensch konnte zeigen, dass eine Vokalempfindung dann auftritt, wenn die Schwingungszahlen der das Ohr treffenden Schallwellen einem Durchschnittswert nahe bleiben. Dabei muss der Schwingungsvorgang seines periodischen und regelmässigen Charakters durch einen Störungsfaktor entkleidet sein. Lachmund baute die Versuchsanordnung in mehrfacher Hinsicht aus und gelangt bei seinen ausgiebig variierten, interessanten Versuchen zu folgenden Resultaten: (1) Eine Schallwelle, deren Einzelwellenlängen einem mittleren Werte nahe stehen, wird dann als Vokal gehört, wenn ihre Tonhöhe nicht mehr wahrgenommen wird. Zur Ausschliessung der Tonhöhenempfindung ist unter normalen Umständen ein "Störungsfaktor" z.B. Wellenlängenvariation, Amplitudenvariation) im regelmässigen Sinusverlauf des Reizes erforderlich. (2) Die Qualität des Vokals ist abhängig von der mittleren Schwingungszahl dieser Formantschwingung. (3) Eine etwa ausserdem in der Schallwelle enthaltene Periodizität (deren Frequenz naturgemäß geringer ist als die der Formantschwingung) kann zum "Stimmton" und damit zum Träger der Vokalqualität werden. Der Helmholtzsche Vokalversuch wird mit Erfolg wiederholt und nach seinen Entstehungsbedingungen genauer untersucht. Befunde anderer Autoren erhalten von den gewonnenen Resultaten aus nähere Beleuchtung und Erklärung. O. KROH (Göttingen).

187. MARZYNISKI, G., Sehgrösse und Gesichtsfeld. *Psychol. Forsch.*, 1921, 1, 319-332.

Die Versuchspersonen des Verfassers stellten sich dicht vor eine Schachbrettfigur und nachten, des mittlere Quadrat fest fixierend, schnell einen Schritt zurück. Dabei zeigte sich die überraschende Erscheinung, dass die Fläche und alle einzelnen Quadrate wuchsen. Das Phänomen erwies sich als weitgehend unabhängig von Variationen der Beobachtungsbedingungen; es wurde z. B. auch dann gesehen, wenn statt einer Schachbrettfigur eine Abbildung des mikroskop. Baues des Cortischen Organs benutzt wurde. Beim Entfernen des anfänglich dicht an der Figur befindlichen Auges wird zunächst bis zu einem bestimmten kurzen Abstand Verkleinerung der Figur gesehen; darauf wird innerhalb eines von der Grösse der Figur und der Individualität der Versuchsperson abhängigen Bereiches das paradoxe Wachsen beobachtet. Die Schätzung der gesehenen Vergrösserung schwankte zwischen $\frac{1}{4}$ und $\frac{1}{2}$ der ursprünglichen Grösse. Am Schluss der Arbeit bespricht der Verfasser verschiedene Erklärungsmöglichkeiten für die beobachteten Erscheinungen. W. EHRENSTEIN (Frankfurt a/M.).

188. LAU, E., Versuche über das stereoscopische Sehen. *Psychol. Forsch.*, 1922, 2, 1-4.

Der Verfasser beobachtete einen sehr deutlichen Tiefeneffekt ohne Querdisparation, wenn er beiden Augen ein Zöllnersches Muster mit gleichlaufenden, um 45° gegen die Horizontale geneigten Parallelen bot, wobei die Querstriche einander entgegengesetzt gerichtet waren und in der linken Figur mit den Parallelen einen etwas kleineren Winkel bildeten als in der rechten. W. EHRENSTEIN (Frankfurt a/M.).

189. HAECKER, V., and ZIEHEN, TH., Ueber die Erblichkeit der musikalischen Begabung, nebst allgemeinen methodologischen Bemerkungen über die psychische Vererbung. *Zeits. f. Psychol.*, 1922, 88, 265-307; 89, 273-312; 90, 204-306.

Die Verff. beabsichtigen, an der Hand eines grösseren statistischen Materials die Erblichkeitsverhältnisse, die Entwicklung, die Komponenten und die korrelativen Beziehungen der musikalischen Beanlagung festzustellen. Es kam ihnen dabei auch besonders darauf an, feste Grundlagen für die *allgemeine Methodik* solcher

Untersuchungen zu gewinnen. Gegen 1100 Fragebogen wurden seit Juli 1918 verschickt, etwa ein Drittel wurde so vollständig ausgefüllt, dass eine statistische Verwertung möglich war. Sehr oft waren nachträgliche mündliche oder schriftliche Erkundigungen erforderlich. Nur in einzelnen Fällen konnte eine persönliche Untersuchung der musikalischen Begabung erfolgen. Fragebogen und Erläuterung zum Fragebogen wurden mitgeteilt und Vorschläge für weitere Verbesserungen desselben gemacht. Daran schliessen sich ausführliche Erörterungen über die Terminologie ("Begabung," "Veranlagung," "Belastung," "Begabungsklassen," "Ehegruppen," "positive und negative Konkordanz," "patropositive und matropositive Diskordanz" usf.), über die Begabungsstufen, über die statistische Verrechnung, über die "Erbtafeln" und eine zweckmässige Vererbungssymbolik.

Der *erste* Hauptabschnitt bringt die tatsächlichen Ergebnisse bezüglich der *Heredität*: Deszendenz diskordanter Ehen (d.h. Vater+Mutter-oder umgekehrt), Deszendenz positiv konwardanter Ehen, Deszendenz negativ konkordanter Ehen, desgl. Aszendenz positiv bzw. negativ veranlagter Individuen usf. Durch zahlreiche Tabellen und Erbtafeln werden die Ergebnisse veranschaulicht. In der theoretischen Erörterung werden folgende Haupttypen der Vererbung in Betracht gezogen: Pisumtypus, Zeatypus, Avenatypus, Dorset-Suffolktypus, Abraxastypus, Drosophiletypus und mit dem Mendelschen Modus unverträgliche Typen. Die Verff. kommen zu dem Ergebnis, dass die Annahme eines *in ganz bestimmter Weise modifizierten Pisumtypus* den Tatsachen am besten gerecht wird. Sie geben dabei sehr ausführlich auf die Verschiedenheiten aller dieser Typen und die speziell bei den Untersuchungen psychischer Vererbung in Betracht kommenden Kriterien der einzelnen Typen ein. In den diskordanten Ehen ist die positive Belastung viel wirksamer als die negative, und die männlichen *sehr* musikalischen Nachkommen überwiegen stark über die weiblichen (namentlich in den matropositiven Ehen). Ueberhaupt zeigen weibliche Individuen seltener sehr grosse musikalische Veranlagung, vererben sie aber, wenn sie auf Grund besonderer Momente vorliegt, in besonders wirksamer Weise und zwar in stärkerem Masse auf das empfänglichere, bzw. entfaltungsfähigere männliche Geschlecht. Da andererseits im übrigen die mütterlich positive Belastung doch vielleicht im Sinne einer gleichgeschlechtlichen Vererbung die

Töchter etwas vor den Söhnen bevorzugt, so kommt in matro-positiven Ehen ein Konflikt der hereditären Momente zustande, auf den wohl die Variabilität der Vererbungsverhältnisse zum Teil beruhen könnte. In den positiv konkordanten Ehen sind etwa je 40% der Nachkommen sehr musikalisch bzw. musikalisch, Fälle mittlerer Beanlagung sind auffällig spärlich, absolut unmusikalische Nachkommen fehlen durchaus nicht (Erbformel DR x DR). Männliche absolut unmusikalische Individuen sind viel seltener als weibliche. Das Hinzukommen eines zweiten positiven Elters bedingt vor allem ein starkes Abwandern aus der Klasse der musikalischen Nachkommen in die Klasse der *sehr* musikalischen Nachkommen. Die auffällige Tatsache, dass in negativ-konkordanten Ehen relativ viele musikalisch gut oder sogar sehr gut beanlagte Nachkommen auftreten, wird versuchsweise durch bestimmte Hypothesen erklärt.

Der *zweite* Hauptabschnitt beschäftigt sich mit der Feststellung der *Komponenten* der musikalischen Veranlagung und mit der speziellen Vererbung dieser Komponenten. Als Komponenten werden angeführt und erörtert: die sensorielle, die retentive, die synthetische, die motorische und die ideative. Außerdem wird überall zwischen der produktiven und der reproduktiven Seite der Begabung unterschieden. Ein besonderes Gebiet stellt die rhythmische Begabung dar. In das Bereich der retentiven Komponente fällt auch das sog. absolute Tongedächtnis. Leider war es den Verff. nur in einem Bruchteil der Fälle möglich, die Untersuchung auf letzteres selbst vorzunehmen. Abseits von den angeführten Komponenten steht die *Gefühlskomponente*, insbesondere die *aesthetische*. Unter den Ergebnissen sei beispielsweise angeführt, dass Spaltung der motorischen und der sensoriellen Komponente relativ häufig ist und durch Hereditätsverhältnisse bedingt sein kann, dass auch bei kompositorisch begabten Individuen keineswegs immer DD=, sondern verhältnismässig oft DR=Veranlagung vorliegt, dass die positive Belastung kompositorisch begabter Individuen bei etwa 2/5 von Vater- und Mutterseite, desgl. bei etwa 2/5 nur von Vaterseite und bei 1/5 nur von Mutterseite stammt usf. In diesem wie in den folgenden Abschnitten wird auch kurz auf die biographischen Daten berühmter Komponisten Bezug genommen.

Ein weiterer Abschnitt versucht einen Beitrag zur *Entwicklung* der musikalischen Begabung zu liefern. Besonders auffällig ist, dass sie zuweilen der sprachlichen vorangeht, und dass andererseits

ausnahmsweise die musikalische Begabung erst gegen Ende der Pubertät manifest wird. In stark positiv belasteten Fällen pflegt die musikalische Begabung besonders früh hervorzutreten, und es wird an Beispielen gezeigt, dass dies nicht ausschliesslich durch Umwelteinfluss zu erklären ist.

Der den *Korrelationen* der musikalischen Begabung gewidmete Abschnitt bringt nur einige vorläufige Ergebnisse: Korrelation zur zeichnerischen und zur dichterischen Begabung bei dem männlichen Geschlecht, keine sichere Korrelation zur mathematischen Begabung, wahrscheinliche Beziehung zur deklamatorischen Begabung und zu bestimmten Komponenten der sprachlichen Begabung, Beziehung zur depressiven psychopathischen Konstitution usf. Ein Literaturverzeichnis beschliesst die Arbeit. TH. ZIEHEN (Halle a/S.).

4. FEELING AND EMOTION

190. MORHANGE, P., En Marge de la Psychologie des Larmes. *J. of Psychol.*, 1922, 19, 55-57.

Report of certain artifices used by a number of actors and actresses to portray tears. S. W. FERNBERGER (Pennsylvania).

191. GRANET, M., Le Langage de la Douleur d'après le Rituel Funéraire de la Chine Classique. *J. de Psychol.*, 1922, 19, 97-118.

The works of Li Ki and of Yi Li are principally considered. The Chinese ritual for the burial service is rather fully described. Grief and anguish are both portrayed by gestures and in language. The technique is entirely conventional but there is still found a chance for a little individual modification. S. W. FERNBERGER (Pennsylvania).

192. LACROZE, R., Notes sur la Psychologie du Combattant. *J. de Psychol.*, 1922, 19, 58-64.

An attempt to analyze the mental processes and more particularly the emotional processes of the soldier during the active campaign and after the war. S. W. FERNBERGER (Pennsylvania).

193. BOAS, M. I., Une Expression organique de la Défense psychique. *J. de Psychol.*, 1922, 19, 605-632.

The author has elsewhere shown that the plethysmographic changes are complex and are dependent partly on the immediate

stimulus and partly on the preëxisting mental states. The present paper is an experimental plethysmographic study further developing this idea. An excellent analysis of the sorts of changes which may occur in volumetric curves is given. Mental work and unpleasant excitation were used as stimuli. Typical and atypical curves are discussed. The author finds that the variations of the plethysmographic curve are not precise records of the vascular changes but that there is another factor present which partly vitiates the results. The author is not able to exactly define this factor at the present stage of our knowledge but believes that it is of cutaneous origin. S. W. FERNBERGER (Pennsylvania).

194. KLUGE, A., Affektänderungen. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 307-338.

Theoretische Erörterungen über das Affektleben auf "schroff mechanistischer Grundlage." Bemerkenswert sind namentlich die Ausführungen über das gegenseitige Verhältnis von Intellektualität und Affektivität (S. 313ff.). TH. ZIEHEN (Halle a/S.).

5. MOTOR PHENOMENA AND ACTION

195. MILLER, F. R., and BANTING, F. G., Observations on Cerebellar Stimulations. *Brain*, 1922, **45**, 104-112.

The question whether the cerebellar cortex is capable of responding to electrical and other forms of stimulation is at present unsettled. The authors showed that the cortex is excitable to galvanic current. The reaction chosen was the inhibition of decerebrate rigidity. Excitation of parts of the cerebellum occasionally elicited movements rather than the more frequent relaxations. S. W. FERNBERGER (Pennsylvania).

196. RABAUD, E., Quelques Recherches sur les Tropismes et le Tonus Musculaire. *J. de Psychol.*, 1922, **19**, 168-170.

Brief report of experimental work with several different animals showing tropistic reactions with unilateral and symmetrical stimulation. The relation to cellular tonus is also discussed. S. W. FERNBERGER (Pennsylvania).

197. KUO, Z. Y., How are our Instincts Acquired? *Psychol. Rev.*, 1922, 29, 344-366.

Primitive man believed that the Divinity endowed animals with powers enabling them to act. As a matter of method, all such notions of instinct should be abandoned, especially since most "instincts" are acquired forms of behavior. Psychologists would do well to study the random and chaotic movements of the newly born organism. The units of reaction which are present at birth are not organized responses serving biological ends; they are nonadaptive. Later these units of reaction are integrated into various complex reactions. There are two types of integration: simultaneous, or the building up of unitary responses; and temporal, or the arranging of unitary responses in a sequential order. To avoid a teleological interpretation of behavior the writer postulates a "behavior-set" which means the "*response-posture or anticipatory attitude which orients the organism in such a way as to make it react discriminatively and selectively to different stimuli or different groups of stimuli.*" Behavior-sets, developed through the establishing of conditioned responses, are important in determining the threshold value of responses. They do not imply any animistic driving force. P. T. YOUNG (Illinois).

198. MELROSE, J. A., The Organismal Point of View in the Study of Motor and Mental Learning. *Psychol. Rev.*, 1922, 29, 390-406.

The "organismal" point of view is described by the writer as a standpoint which considers the living organism as a unit in relation to environment. Psychologists have tended to look into the "biologic deeps" for some profound secret, but the facts of psychology are more on the surface. Pragmatically it seems wise to study the adjustments of the organism as a whole, shifting emphasis to environmental factors. This standpoint is exemplified by a preliminary discussion of motor learning. Two types of learning are mentioned: (1) The "*fixing of a reaction with reference to structure in the organism itself*"; (2) "*Organic space adaptation*," or the adjustment of movement to the structure of environment. P. T. YOUNG (Illinois).

199. WIEMAN, H. N., The Unique in Human Behavior. *Psychol. Rev.*, 1922, **29**, 414-425.

Instincts are adaptive units of behavior common to man and other animals. *Interests*, on the other hand, are unique in human behavior. Interests are more complex forms of behavior, and they adapt the organism to more inclusive situations than instincts. In the care of young, for example, an animal does *instinctively* what is necessary to protect and foster; but a human being does very much more than this. Human interest bedecks the infant with lace and ribbon; sings to it; presents it to guests; subjects it to religious ceremonies. Interest is thus a response to the totality of a situation. P. T. YOUNG (Illinois).

200. RIFE, J. M., Types of Dexterity. *Psychol. Rev.*, 1922, **29**, 474-481.

The writer asserts that there are at least six types of dexterity—three forms of right-handedness and three of left-handedness. The basis of these distinctions is found in bimanual, as well as unimanual, operations. P. T. YOUNG (Illinois).

201. PETERSON, J., Imitation and Mental Adjustment. *J. of Abnorm. Psychol. and Social Psychol.*, 1922, **17**, 1-15.

Although the concept of imitation has, in late years, lost some of its earlier prestige, due to the fact that it tends to substitute vague thinking for scientific analysis, the writer goes on to show that, among many writers, imitation figures prominently as a factor in social or group behavior, in the learning processes where there is uniformity of habits in members of the group, even in the etiology of abnormal bits of behavior such as phobias. The writer attempts an explanation as to why there is a certain uniformity of behavior among members of a group, enumerating eleven conditions and then says, "An examination of these eleven conditions making for uniformity in behavior, will make it clear that the responses in most cases are not copying responses, or imitation, at all, unless everything we do is imitation." "The position of the New Nancy School, represented by Emile Coué and his followers, . . . as well as the emphasis put by the Freudians on instinctive drives, are important instances of movements that tend to put away the older passive-reflex views favoring the wholesale application of the concept of

imitation." The writer subjects many of the phases of imitation to a fairly close scrutiny and analysis. D. A. MACFARLANE (Boston Psychopathic Hospital).

6. ATTENTION, MEMORY, AND THOUGHT

202. CHASLIN, P., Quelques Mots sur la Psychologie de la Mathématique Pure. *J. de Psychol.*, 1922, 19, 673-694.

Systematic study of the psychology of mathematics as found in the works both of psychologists and of mathematicians principally from the light which it may throw on the problem of reasoning. S. W. FERNBERGER (Pennsylvania).

203. WILLIAMS, L., The Constituents of the Unconscious. *Brit. J. of Psychol.*, Med. Sec., 1922, 2, 259-272.

The author indicates the importance of the sympathetic nervous system and of the endocrine glands as a basis for the unconscious. "The vegetative mind, the subconscious, is an entity in the creation of which the endocrines play a preponderant part, and they continue to dominate it during the whole life of the individual. If the endocrine balance becomes altered by environment, accident or disease, then the individual becomes changed bodily as well as mentally." S. W. FERNBERGER (Pennsylvania).

204. WECHSLER, D., Quelques Remarques sur la Psycho-Pathologie de l'Indécision. *J. de Psychol.*, 1922, 19, 47-54.

The importance of ambivalence in the state of indecision is pointed out. An active and a passive phase are noted and characterized. The active phase is characterized by strong agitation and the passive phase by inhibition which amounts practically to the suppression of all ideas that are in conflict. S. W. FERNBERGER (Pennsylvania).

205. CHASLIN, P., La Psychologie du Raisonnement de Eugenio Rignano. *J. de Psychol.*, 1922, 19, 147-167.

Long criticism of Rignano's work on Reasoning in which the book is also excellently summarized. S. W. FERNBERGER (Pennsylvania).

206. WHEELER, R. H., Analyzed Versus Unanalyzed Experience. *Psychol. Rev.*, 1922, **29**, 425-447.

This paper is a reply to a recent criticism of Professor Calkins directed at the author's investigation of the process of choosing. Professor Calkins in criticizing Wheeler's work makes use of the introspections of Ach and Michotte, but these reports, according to Wheeler, are not adequate descriptions of fully analyzed experiences. They are rather statements of meaning. The difference between analyzed and unanalyzed experience is illustrated by a series of introspections from the author's laboratory. Feelings of activity and the awareness of self are not elemental contents of experience; for upon complete analysis the awareness of self-activity is resolvable into sensory and imaginal elements. P. T. YOUNG (Illinois).

207. GRELLENBERG, P., Ueber die Herausdifferenzierung der Wahrnehmungs- und Vorstellungswelt aus der originären eidetischen Einheit. *Zeits. f. Psychol.*, 1922, **88**, 56-119.

Hatten die bisherigen Untersuchungen dieser von Jaensch herausgegebenen Serie das Nebeneinander der verschieden hohen Gedächtnisstufen (Nachbild, Anschauungsbild und Vorstellungsbild) und ihre Phänomenologie zum Gegenstand, so wird mit der vorliegenden wichtigen und interessanten Arbeit die Frage der genetischen Abhängigkeit dieser einzelnen Stufen voneinander untersucht. Der Nachweis eines eidetischen Einheitstypus, bei dem die früher aufgezeigten Unterschiede der einzelnen Gedächtnisstufen völlig oder angenähert verschwinden, also auch das Nachbild und das Vorstellungsbild die Wesensmerkmale des Anschauungsbildes tragen, legt nahe, im subjektiven optischen Anschauungsbild die originäre Einheit zu sehen, aus der sich dann Wahrnehmungs- und Vorstellungswelt herausdifferenzierten. Diese "Aufspaltung der originären eidetischen Einheit" lässt sich bei solchen tetanoiden Individuen, die den Einheitstypus repräsentieren, durch Kalkzufuhr experimentell herbeiführen. Bei den Vertretern des Einheitstypus muss der "eidetische" Zustand, d. i. der psycho-physische Gesamtzustand während der Erzeugung und Beobachtung eines Anschauungsbildes, als schlechthin normal gelten. Nach der Aufspaltung hebt er sich als etwas Besonderes aus dem gewöhnlichen Bewusstseinsleben heraus. Je bedeutsamer und sinnvoller der Inhalt eines Gedächtnisbildes ist, desto näher steht das Bild dem Einheitstypus. Wert und

Bedeutung entscheiden aber auch im wesentlichen darüber, ob und in welchem Grade ein Objekt zum Bestandteil der Wahrnehmung wird. Bei abklingender eidetischer Anlage wird der Umriss, die Gestalt, auch dann noch im *Anschauungsbild* wiedergegeben, wenn Farbe und Tiefendimension bereits nur noch *vorgestellt* werden. O. KROH (Göttingen).

208. JAENSCH, E. R., Über subjektive optische Anschauungsbilder. *Psychiat. Neurol. Wochensch.*, 1922, 23, 255.

Eidetiker sind solche Individuen, welche die Fähigkeit besitzen eine einmal gesehene Vorlage nach längerer oder kürzerer Zeit zu reproduzieren, d. h. mehr oder weniger deutlich zu sehen. Dabei werden oft erstaunlicher Weise feinste Details reproduziert. Rudimente dieser eidetischen Fähigkeit finden sich bei fast allen Jugendlichen, während der Prozentsatz der stark ausgeprägten Fälle örtlichen Verschiedenheiten unterliegt und offenbar zu innersekretorischen Vorgängen in enger Beziehung steht. Das Anschauungsbild, wie es der Eidetiker gewinnt, soll die anfängliche undifferenzierte Einheit sein, aus der sich sowohl die Wahrnehmungen wie die Vorstellungen erst entwickeln. W. RIESE (Frankfurt a/M.).

209. SCHNITZ, Wahrträume und Erinnerungsfälschungen. *Psychiat. Neurolog. Wochensch.*, 1922, 23, 281.

Als Gegenstück zu den bei Depressionszuständen häufig zu beobachtenden Fremdheitsgefühlen teilt Verfasser die Ausserungen einer manischen Kranken mit, bei welcher gerade eine abnorme Steigerung des Vertrautheitsgefühls vorlag, sodass ihr alles schon bekannt, gehesn, gehört, erlebt und geträumt schien. Auf diese Weise kommt es zu einer Art Errinnerungsfälschungen, bei deren Zustandekommen nach Meinung des Autors die manische Affektstörung ursächlich beteiligt ist. W. RIESE (Frankfurt a/M.).

210. KLEINEBERGER, O., Körperliche Störungen und Wahnideen. *Psychiat. Neurolog. Wochensch.*, 1922, 23, S. 83.

Scheinbar absurde Beschwerden und sonderbare hypochondrische Vorstellungen von Geisteskranken brauchen nicht immer wahnhafter Natur zu sein, sondern können durchaus reale Unterlagen haben. Der Verfasser berichtet über einige markante Fälle, denen von ärztlicher Seite deswegen Unrecht geschah, weil man ihre Klagen

ohne weiteres als psychotisch abwies. Später konnte man dann feststellen, dass eine Senile wirklich eine Brille verschluckt hatte, und dass eine Schizophrene tatsächlich eine Zahnbürste verschluckt und an der dadurch bedingten Stenosierung der Speiseröhre und ihren Folgeerscheinungen zugrundegegangen war. W. RIESE (Frankfurt a/M.).

211. PRANDTL, A., Die psychische Leistungsfähigkeit bei wechselnder Disposition. *Zeits. f. Psychol.*, 1921, **87**, 257-314.

Es wird die Fähigkeit der Einprägung und Reproduktion sinnloser Silbenpaare bei normalen Befinden und bei Übelkeit, erzeugt durch forgesetzte Drehbewegungen, geprüft. Diese Versuche werden nach der Treffermethode an 2 Vpn. während einer Dauer von 4 Wochen vorgenommen und sind ergänzt durch Auffassungsversuche mit Linienmustern am Tachistoskop, Versuche im unmittelbaren Behalten visuell gegebener Konsonanten, im Lernen von Konsonantenreihen, die mit wiederkehrenden gleichen Gliedern belastet sind, beides nach der Treffermethode, und in der Produktion sinnloser Silben zur Prüfung der Perseveration.

Silbenreihen, die bei normalem Befinden gelernt wurden, werden am darauffolgenden Tage auch bei Unwohlsein gut reproduziert. Dagegen zeigt sich bei der Reproduktion von Silbenreihen, die bei Unwohlsein eingeprägt wurden, am nächsten Tage bei normaler Disposition eine Minderleistung. Die einzelnen Nebenversuche zeigen, dass bei Übelkeit die Auffassungsgeschwindigkeit geringer und die Stiftung neuer Assoziationen erschwert ist. Bei der Produktion sinnloser Silben tritt die Tendenz zum Reimen stärker hervor. Die Minderleistungen bei Unwohlsein lassen sich erklären vor allem durch eine Schwäche der unbewussten Einstellung auf das Ziel, die es unmöglich macht, auftretende zwecklose oder störende Vorstellungen fernzuhalten. Diese Schwäche der Einstellung kommt aber nicht zum Ausdruck, wenn die betreffende Tätigkeit bereits durch Übung weitgehend mechanisiert ist. Die Symptome der Leistungsunfähigkeit bei Übelkeit entsprechen den bei Ermüdung auftretenden. Verf. hält es daher für notwendig, bei Ermüdungsmessungen den Übungsgrad zu berücksichtigen und die psychische Leistungsfähigkeit zu prüfen als die Fähigkeit "im Sinn erstmalig auftauchender Ziele sich zweckmäßig zu benehmen." Neben der Einstellung auf neue Aufgaben erleidet auch die Fähigkeit der

Retention eine Einbusse, d. h. neue Eindrücke, die im Zustand der Unwohlseins an das Zentralorgan gelangen, haften nicht mit gleicher Wirksamkeit trotz gleicher Intensität der Aufnahme. A. ARGE LANDER (Mannheim).

212. LÖWENSTEIN, O., Ueber subjektive Tatbestandsmässigkeit und Zurechnungsfähigkeit nebst kritischen Bemerkungen zur psychologischen Tatbestandsdiagnostik. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, 65, 411-458.

Verf. erörtert im Anschluss an seine früheren Arbeiten die "Methode der unbewussten Ausdrucksbewegungen" in ihrer Bedeutung für die Tatbestandsdiagnostik. Er registriert die Kopfbewegungen (dreidimensional) und die Bewegungen der Extremitäten (eindimensional) auf einer rotierenden Trommel und stellt fest, ob und wie die Reizwörter, z. B. die auf einen kriminellen Tatbestand bezüglichen, die Kurve beeinflussen. Auch Puls, Brust- und Bauchatmung werden aufgezeichnet. Die mitgeteilten Kurvenbilder sind sehr instruktiv. Gegen die praktische forensische Verwertung erhebt Verf. selbst die schon oft erörterten Bedenken. Mehr verspricht er sich von einer "subjektiven Wendung der Tatbestandsdiagnostik." Diese besteht darin, dass auf die Ermittlung des objektiven Tatbestands verzichtet wird und nur die subjektiven Tatbestandsmerkmale, die die Zurechnungsfähigkeit begründen, experimentell festgestellt werden. Beispielsweise führt Verf. an, dass Ueber schreitung der Notwehr nicht strafbar ist, wenn der Täter in Bestürzung, Furcht oder Schrecken über die Grenzen der Verteidigung hinausgegangen ist, und schlägt vor, durch die Methode der unbewussten Ausdrucksbewegungen experimentell festzustellen, ob bei dem Angeklagten in der Tat eine besondere individuelle Affekterregbarkeit in der bezüglichen Richtung besteht. Negativer Ausfall würde nichts beweisen, positiver Ausfall es dagegen "im höchsten Grade wahrscheinlich machen," dass die Voraussetzungen der bezüglichen Gesetzesparagraphen auch zur Zeit der Tat bestanden haben. Ausreichende Gelegenheit zur praktischen Erprobung hatte Verf. bei geistig gesunden Individuen nicht, wohl aber auf pathologischen Gebiet (vgl. S. 428 ff.). Die Einzelbeobachtungen über das Verhalten der Affekterregbarkeit, der Suggestibilität, der Erinnerung (z. B. bei hysterischen Dämmerzuständen) und der Auffassung verdienen auch von seiten der Normalpsychologie alle Beobachtung. TH. ZIEHEN (Halle a/S.).

213. v. MAYENDORF, N., Projektionsfaserung und Stammstrahlung.
Arch. f. Psychiat. u. Nervenkrankheiten, 1921, **63**, 551-573.

Verf. glaubt, dass die kortikalen Projektionsflächen der peripherischen Sinnesorgane zugleich der Sitz der sinnlichen Erinnerungsbilder sind. Die Identität der erregten Ganglionzellengruppen ermöglicht das Wiedererkennen ("ein Bewusstwerden der Identität"). Er beruft sich dabea u. a. auf einen kürzlich von Henschen mitgeteilten Fall, dessen Deutung allerdings bei weitem nicht so einfach und sicher ist, wie Verf. glaubt. Er behauptet daher auch, dass in der Literatur kein einziger Fall von Erkrankung der Rinde und des unmittelbar darunterliegenden Marks des linken Gyrus angularis mit dem Symptom der Wortblindheit enthalten ist. Letztere soll immer erst dann zur Beobachtung kommen, wenn die Sehstrahlung auf ihrem Weg zur Fiss. calcarina in Mitleidenschaft gezogen ist. Verf. glaubt, damit sei die Lehre von der Trennung der Empfindungszentren und der Assoziationszentren "endgültig beseitigt." Die Abgrenzung bestimmter zyto- und myeloarchitektonischer Felder hat Verf. niemals bestätigen können. Vom Standpunkte des Verf.'s trifft auch die Lehre Flechsig's, dass es Grosshirnrindengebiete ohne Stabkranz gebe, nicht zu. Er gibt aber zu, dass der Stabkranz mit den zentralen Sinnesleitungen (Projektionsbündeln) nicht identisch ist, und das es Rindengebiete gibt, die keine Sinnesleitungen aufnehmen, sondern nur eine "Stammstrahlung" besitzen, d. h. Fasern, die in den Sehhügel und in die Brücke hinabsteigen. In Auseinandersetzungen, die der empirischen Grundlagen fast ganz entbehren, versucht Verf. nachzuweisen, dass die Gefühlsfunktionen an die Stammstrahlung gebunden sind. Die Einzelheiten dieser Hypothese wären event. im Original nachzulesen. TH. ZIEHEN (Halle a/S.).

214. MATHER, J. E., and KLINE, L. W., The Psychology of Solving
Puzzle Problems. *Ped. Sem.*, 1922, **29**, 269-282.

To study the ways in which solution principles are seized and applied in puzzle solving, a series of six cardboard assembling puzzles was used, in which each succeeding puzzle formed merely a further complication of that preceding. The series was given to two subjects by the whole method (subject solving puzzles in serial order, repeating the series again and again until mastered, then learning to draw the puzzles), and to two subjects by the part

method (learning each puzzle fully before attacking the next, and learning to draw them as by the other subjects). It was found that trial and error was gradually superseded by purposive control, and was facilitated by formulation of a plan that embraced the whole series; and that principles found in one puzzle were usually transferred to the next. Further: the whole method required about four trials for each puzzle, the part method about two; time for solving was more than twice as long by whole than by part method; number of moves made per puzzle was more than twice as great in whole than in part method; interest was better sustained in part method than in whole. Interpretation of the clear advantage of the part method was sought in terms of: (1) immediate repetition or "recitation," (2) graduation of difficulty of problems, (3) less chance for retroactive inhibitions. J. F. DASHIELL (North Carolina).

7. SOCIAL FUNCTIONS OF THE INDIVIDUAL

215. LUQUET, G. H., *Genèse de l'Art Figuré*. *J. de Psychol.*, 1922, 19, 695-719.

The author finds that there are several stages in the evolution of drawing in the child. The first phase may be described as purely geometric in form. One very important point of development is when the infant realizes for the first time that he is making a graphic representation of a mental image. The discussion is to be continued in a subsequent number. S. W. FERNBERGER (Pennsylvania).

216. VAN GENNEP, A., *Religion et Nationalité*. *J. de Psychol.*, 1922, 19, 24-46.

Discussion of different types of religion which have grown up at different times in different parts of the world. S. W. FERNBERGER (Pennsylvania).

217. LUQUET, G. H., *La Méthode dans l'Étude des Dessins l'Enfants*. *J. de Psychol.*, 1922, 19, 193-221.

Historical summary of the methods that have been employed in the study of children's drawings. The author believes that the method of direct observation is the one that will be most fruitful in the study of this material. S. W. FERNBERGER (Pennsylvania).

218. LALO, C., L'Esthétique Fondée sur l'Amour. *J. de Psychol.*, 1922, 19, 492-520.

Discussion of the theories of the origin of art of a number of writers both ancient and modern, the psychoanalytic group being considered at rather greater length than the rest. The author takes an unsympathetic attitude toward the Freudians who insist that all art is sexual in origin. S. W. FERNBERGER (Pennsylvania).

219. HARDING, T. X., Limitations of the Religious Concept. *Open Court*, 1922, 36, 612-620.

It is a matter of common observation, that religionists of different sects are blind to the peculiarities of their own beliefs and practices but sharply criticize those of others. No one, however, seems to perceive the supreme peculiarity of religion in general, by which speculative ideas attain a dominance which is unparalleled in other spheres of experience. Scientific doctrines usually terminate in concrete facts or are rejected in the light of consequences, and even where they persist as dogmas, e.g., evolution, occasion little rancor. Religious dogmas rarely ground anywhere, but nevertheless persist regardless of consequences, yet religion if analyzed proves to be nothing definable, but almost anything you like. It is doubtful if there exists anything in religion that cannot be resolved into something else. Based everywhere on myth, superstition, sexuality and folklore, religion may be broadly defined as composed of spirituality and pathology, the latter constituting a larger share than is commonly supposed. Pathological religion arises in psychopaths, or more commonly in mere neurotics, as a flight from reality. Such a religion may be a product of original thought, but the majority accept ready-made solutions which their pathological condition impels them to force upon others, or failing in this, display intolerance. The spiritual religionist on the other hand takes up religion as a service of intangibles, although such service of intangibles need not necessarily take the form of religion. The spiritual religionist might have hypnotized the universe, but the more numerous and militant psychopaths preclude that possibility, and constitute a class as obnoxious as are arrogant extremists in any other sphere. C. M. DISERENS (Cincinnati).

8. SPECIAL MENTAL CONDITIONS

220. HINKLE, B. M., A Study of Psychological Types. *Psycho-analytic Rev.*, 1922, 9, 107-197.

Jung's two psychological types, the extravert and the introvert, are each subdivided into three groups: simple, objective and subjective. Six types are thus distinguished and described, namely: simple, extravert, simple introvert, objective extravert, objective introvert, subjective extravert, and emotional introvert. The primary distinction is between the extravert and the introvert. In the former the movement of the libido is towards the object, in the latter towards the subject. The distinction between the objective and subjective types depends upon the degree of differentiation of the psychic functions. The former are simple, the latter more complex.

The *simple extravert* puts the accent on the object. He grasps the actual situation and, feeling his way, acts according to its demands. He is self-confident, virile and aggressive. This type is illustrated by the late President Roosevelt.

The *simple introvert* puts the accent on the subject. Thought is paramount, feeling out of touch with reality, action often uncertain and delayed. He is primarily a dreamer and an idealist. He is dominated by the object, has a strong sense of inferiority, and frequently develops a compensatory "will to power." This type is illustrated by former President Wilson.

The objective types are utilitarian, practical and reliable, but unemotional, unesthetic and unromantic. They aim to conquer the external world, and the existence of any "other world" is totally unknown to them. They have no feeling appreciation of the situation but deal only in cold fact and logic. The *objective extravert* approaches life solely through sense perception. The *objective introvert* elaborates his percepts by thought but his thoughts become materialized and objectified like the sense percepts themselves. These are the scientists who believe in the objective validity of their hypotheses. In the psychology of nations, England is the typical objective extravert, Germany the objective introvert. The former is at home in commerce and industry, the latter in science and philosophy. England has no world policy but meets each situation as it arises. Germany, on the other hand, attempts to dominate the world by a carefully thought out plan.

The subjective types are also called bisexual types; because, in addition to the dualism between the inward and outward movements of the libido, there is also a dualism of masculine and feminine characteristics. These types are therefore unstable, variable, and cyclothymic; and they are especially prone to identify themselves with the object.

The *subjective extravert* projects his feelings upon the objects of reality with which he identifies himself. The world is his home, and to it he surrenders completely. He is led by imagination, feeling and intuition to prospective activity and phantasy building, and he tends to identify his phantasies with reality. He is idealistic, irrational and overconfident; but, when his desires come into conflict with reality he develops a temporary sadness and feeling of inadequacy. His attitude towards life is analogous to that of the child who is still in a happy paradise, but who nevertheless occasionally feels the check of reality.

The *emotional introvert* is the most complex type. All possibilities are present and all psychic elements are in an active state. He attempts to adapt to two worlds, subjective and objective, through the four functions of intuition, sensation, thought, and feeling. He is uncertain and undecided, because full of contradictions and mutually antagonistic impulses; but this uncertainty may be replaced by a compensatory dogmatism. Unlike the subjective extravert his surrender to the external world is never complete, for the ego must always assert its independence of and power over the object. The world for him is a foreign place full of unknown and uncertain forces, which for his own safety he must know and conquer. He usually perceives not the real object but rather his ideal which appears to be the object—an illusion, a dream. In his human relations he is difficult because of his antagonistic impulses and lack of fixity. He has a pronounced tendency towards homosexuality and Don Juanism. In the psychology of the nations France represents the emotional introvert, and the United States the subjective extravert.

In this paper there is also a discussion of the unconscious symbols (or ideals) under which an individual makes his efforts to adapt to the real world. These are four in number: the father symbol, the mother symbol, the son symbol, and the daughter symbol. These symbolize four aspects of the personality, which in the highest type

of individual are fused into an integrated whole. The paper closes with a summary and a general discussion of types. J. W. BRIDGES (Toronto).

221. STRAGNELL, G., A Psychopathological Study of Knut Hamsun's "Hunger." *Psychoanalytic Rev.*, 1922, 9, 198-217.

The writer attempts to explain by psychoanalytic principles the strange behavior of the chief character of Knut Hamsun's *Hunger*. This character tries to earn his living by writing, but is always unsuccessful. He lives in complete poverty, moves in an ever-narrowing circle, and in the end seeks to escape the struggle by flight on a vessel bound for a foreign country. The continuous failure of this subject does not seem to have been due to adverse circumstances but is possibly the outcome of certain unconscious infantile cravings.

The subject is in constant search for complete dependence—for complete and abject poverty. This symbolizes for him the period of childhood when he was completely dependent upon the father and had the attention and affection of the mother. Every man in comparative power represents a father whom he alternately hates and loves, defies and appeases, and to whom he surrenders his independence and virility. The masochistic impulses of submission, self-abnegation and self-torture dominate his life; but occasionally compensatory arrogance, defiance, and sadism break through the repression. Other forms of childish behavior are also in evidence and, when in the end he boards a vessel for a foreign country, he is attempting to break the bond that ties him to the mother.

The color red is referred to many times in *Hunger*. This is a sadomasochistic symbol. In addition to sex desire, it symbolizes blood, force, cruelty, anger, and even punishment by hell-fire. Wherever it occurs in *Hunger* it symbolizes the subject's attitude towards life: desire that must be repressed, the sinfulness of sex cravings, the masochistic submission, the occasional sadistic revolt and the dream of power. J. W. BRIDGES (Toronto).

222. HERBERT, S., The Psychogenetic Root of Enuresis. *Psychoanalytic Rev.*, 1922, 9, 263-266.

A case of enuresis is cured by psychoanalysis. This success, together with the facts brought to light by the analysis justify the theory that enuresis has an unconscious sexual significance. J. W. BRIDGES (Toronto).

223. MEAGHER, J. F. W., Psychoanalysis and its Critics. *Psychoanalytic Rev.*, 1922, 9, 324-336.

The critics of psychoanalysis are divided into four classes: (1) those who oppose the theory in toto, (2) those who reject most of it but admit it has some good features, (3) those in sympathy with it but who constructively criticize parts of it, and (4) its adherents who find in it little to criticize adversely.

The writer presents the usual arguments in reply to the criticisms of psychoanalysis made by persons belonging to the first three groups. He discusses especially the criticisms of Dunlap, Janet, Peterson, Jung, Adler, Kempf, and Jastrow. J. W. BRIDGES (Toronto).

224. FAY, D. W., Adolf, A Modern Edipus. *Psychoanalytic Rev.*, 1922, 9, 267-323.

A very intelligent, strictly brought-up only child goes into a psychosis just before his eighteenth birthday. The father is twenty years older than the mother, who always made a companion of the boy. The latter long felt inferior on account of his left-handedness and slender build and tried to compensate with pride of intellect and ancestry. He was a teacher's pet, and never maintained his rights among boys but fled home from aggression. The situation at home was favorable to the development of a strong Edipus complex. After three years of both conscious and unconscious struggle against his sexual impulses, the wish for mother incest, to his horror, broke into full consciousness. He had no confidant and believed himself the most unnatural of sons.

He made the acquaintance of a pseudoartistic Bohemian group of people, who fascinated him and told him he was tied to his mother's apron strings and should emancipate himself and lead his own life. He tried to, but could not, his attitude to his parents vacillating between extreme childish submission and insolent self-assertion. He would run away from home, be unable to stand alone, and then return defeated.

Among the Bohemians were men of homosexual type. They defended the so-called intermediate sex as higher in civilization than the crude male or cave man, and maintained there was no stigma so long as one abstained from sexual perversions. The boy believed he belonged to this type. His homosexual impulses were mostly projected in the fear of aggression from perverts. His

heterosexual impulses were curbed by his ideals of morality. His fear of homosexual aggression finally developed offshoots of fear that others considered him a pervert and of fear of physical assault. He found it increasingly difficult to concentrate his mind, his school work fell off, and he was faced with the, to him, insufferable humiliation of a flunk. One night he was arrested for suspicious conduct, and this fright was the last straw.

He was taken to a psychopathic ward, diagnosed dementia precox, and later brought to a hospital for mental diseases. He regressed to infancy, went naked, and acted out birth fantasies. Emerging from the nude stage, he maintained he was "ambidextrous and ambisexual" (bisexual), and claimed different desirable or illustrious parents every day. For two months he talked incessantly, hot and cold baths and packs failing to reduce his excitement. During this period he was the victim of several homosexual assaults by other patients.

At the end of three months his excitement had somewhat abated, he expressed the desire to get well and began to coöperate in an analysis. He was struggling out of bisexuality and trying to become male. His language was rich in symbolism and his fantasies included omnipotence, the family romance, Edipus complex, bisexuality, autoerotism, castration and cannibalism. His improvement was steady, his excitement changing into quiet and subdued behavior, and at the end of seven months he was discharged as cured.

He finished his senior year of high school, and entered college. There he could not adjust and he developed a second, milder psychosis, which lasted a little longer than the first. He was discharged as a spontaneous recovery from dementia precox, catatonic type. The second recovery seems as complete as the first. He has given up college and gone to work, but hopes eventually to go on the stage and become an actor, which has long been his ambition.
J. W. BRIDGES (Toronto).

225. CORRIE, J., A Personal Experience of the Night Journey Under the Sea. *Brit. J. of Psychol.*, Med. Sec., 1922, 2, 303-312.

Description of a series of personal dreams of the author in which the death *motiv* was prominent, all of which is described as being essentially a religious experience. S. W. FERNBERGER (Pennsylvania).

226. HOOPER, S. E., Study of a Phobia. *Brit. J. of Psychol.*, Med. Sec., 1922, **2**, 292-302.

Study of a case of fear of storms and of any strong wind. The psychoanalytic method was used. A sex motivation was found as the basis for this phobia. S. W. FERNBERGER (Pennsylvania).

227. CARVER, A., The Search for a Kingdom. *Brit. J. of Psychol.*, Med. Sec., 1922, **2**, 273-291.

Psychoanalytic study of the motivation of a young man who closely resembles the hero in Jensen's *Gradiva*. The analysis proceeds along Freudian lines. S. W. FERNBERGER (Pennsylvania).

228. HALBERSTADT, G., Notes sur les Troubles de l'Évaluation du Temps chez les Aliénés. *J. de Psychol.*, 1922, **19**, 262-265.

Study of several cases. S. W. FERNBERGER (Pennsylvania).

229. MIGNARD, M., L'Imagination Objectivante et les Hallucinations Visuelles Vrais. *J. de Psychol.*, 1922, **19**, 543-549.

The author finds that true visual hallucinations are the simple result of the exercise of a normal function—objective imagination—to an immoderate extent. In sleep the loss of control renders this function more active relatively and hence accounts for dreams. The same principle also accounts for the more frequent occurrence of hallucinations in old age. S. W. FERNBERGER (Pennsylvania).

230. HALBWACHS, M., L'Interprétation du Rêve chez les Primitifs. *J. de Psychol.*, 1922, **19**, 577-604.

Interesting summary of a good many cases of attitude toward dreams of a number of widely separated primitive peoples. The general point of view seems to be that the dreams are the result of action of a spirit guardian on the sleeper. Hence there is a general rather widespread belief in the reality of the dreams. S. W. FERNBERGER (Pennsylvania).

231. ARNAUD, F. L., Sur la Sincérité de Certains Déliirants. *J. de Psychol.*, 1922, **19**, 557-566.

Consideration of the amount of dependence to be placed in the statements of subjects suffering with mental disease while in the state of delirium with a discussion of several cases. S. W. FERNBERGER (Pennsylvania).

232. WALLON, H., Un Cas de Brusque Variation dans la Forme de Crises d'Origine Émotive. *J. de Psychol.*, 1922, 19, 551-557.

Description of a case with alternating hysterical and epileptic symptoms. S. W. FERNBERGER (Pennsylvania).

233. QUERCY, P., Auto-observation d'une Hallucination et d'une Illusion. *J. de Psychol.*, 1922, 19, 635-646.

Analysis and differentiation of illusions and hallucinations under the conditions when there is no sensation or image or sensation and image present. S. W. FERNBERGER (Pennsylvania).

234. CHASLIN, P., Sur le Symbolisme Delirant. *J. de Psychol.*, 1922, 19, 653-668.

Detailed report of a case of a girl suffering from delirium which is interpreted as being of a symbolic character. S. W. FERNBERGER (Pennsylvania).

235. HARRISON, M., Mental Instability as a Factor in Progress. *Monist*, 1922, 32, 189-199.

This paper is a critical discussion of current psychoanalytic conceptions, particularly sublimation, and the function of mental instability. Popular views of sublimation and its supposed issue in the ideal individual, neglect the psychology of the unconscious, and present a static view of personality. In a similar way, psychoanalysts betray insufficient analysis of their problems by making the conventionally, and statistically normal individual, their standard of reference, without inquiring whether the proper object of modification may not be the environment. The biological view of the psycho-neuroses formulated by Dr. Rivers is a distinct advance in this field. Here it is suggested that sublimation, leading to complete adaptation is less conducive to exceptional achievement, than is a certain instability in the conscious and unconscious fields of conflict. Conflict—even disease—plays an important rôle in the development of individual genius and the same principle seems to hold for societies. We may distinguish, moreover, between helpful and harmful conflicts, the latter being such as prevent the individual coming up against his natural limitations. Such conflicts are common in the existing social order and in neuroses, whereas a proper balance in the factors of conflict—self vs. environment, culminates

in creative activity. Under such conditions individual and social energy increases. The final conclusion is that mental instability is an indication of power which may be integrated in some form of positive expression or dissipated in psychoneuroses, two developments corresponding to the general anabolic and catabolic forces of the organism. C. M. DISERENS (Cincinnati).

236. SIEMERLING, E., Hypnotismus und Geistesstörung. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **65**, 1-8.

Mitteilung zweier Fälle, in denen vergeblich versucht wurde, eine Psychose auf hypnotischem Wege zu heilen, und dreier Fälle, in denen im Anschluss an hypnotische Versuche (passive bew. aktive) geistige resp. nervöse Störungen auftraten. Kritische Besprechung der Literatur. TH. ZIEHEN (Halle a/S.).

9. NERVOUS AND MENTAL DISORDERS

237. SÉGLAS, J., Une Amoureuse de Prêtre. *J. de Psychol.*, 1922, **19**, 720-734.

Detailed report of a case. S. W. FERNBERGER (Pennsylvania).

238. VINCHON and MONESTIER, Nouvel Exemple d'Évaluation du Temps par un Schizophrène. *J. de Psychol.*, 1922, **19**, 735-738.

Internal rhythms help considerably in the evaluation of time in this case. S. W. FERNBERGER (Pennsylvania).

239. KAHN, P., La Psychose Encephalitique. *J. de Psychol.*, 1922, **19**, 747-753.

Discussion of a case of this form of mental derangement. S. W. FERNBERGER (Pennsylvania).

240. DÉAT, M., Réflexions sur la Paramnésie. *J. de Psychol.*, 1922, **19**, 412-424.

Discussion and criticism of Bergson's work on paramnesia. The author views the condition as the conflict between affective and rational certainty. S. W. FERNBERGER (Pennsylvania).

241. CAMPBELL, C. M., What can Psychology Contribute to our Knowledge of the Mechanism of Mental Disorderä With Some Comments on the Term "Depression." *Psychol. Rev.*, 1922, **29**, 447-457.

The writer affirms that the psychiatrist turns naturally to the basic science of psychology for facts which shall help him in his practical work; but in the case of emotion, at least, the result is disappointing. This is illustrated by a case of depression recently examined at the Boston Psychopathic Hospital. In this particular instance the biological situation is very complex. There are present "unsatisfied cravings, vague yearnings, organic desires, repressed fantasies, stifled irritations, strivings towards religious solutions." The standard book treatments of simple depression are not adequate to the facts. P. T. YOUNG (Illinois).

242. RÖLL, A., Neue Versuche und Erfahrungen mit Promonta-Nervennahrung. *Psychiat. Neurol. Wochensch.*, 1922, **23**, 105.

Promonta-Nervennahrung enthält polyvalente Vitamine animalischen und vegetabilischen Ursprungs. Ausserdem Calc. glycerin. phosphoric. als organisches Kalksalz, Eisenalbuminat als organische Eisenverbindung, Hämoglobin, lösliche Eiweissstoffe, leicht assimilierbare Kohlehydrate. Das Mittel soll gern genommen werden. Der Verfasser fühlt sich auf Grund seiner Erfahrungen berechtigt, in Promonta ein wirksames Nährpräparat zu erblicken, das namentlich in Fällen von Unterernährung, Ermüdungs- und Erschöpfungszuständen und besonders auch bei Schlaflosigkeit auf neurasthenischer Grundlage indiziert ist. W. RIESE (Frankfurt a/M.).

243. BECKER, Heilerfolge der Epilepsiebehandlung mittels Xifalmilchinjektionen. *Psychiat. Neurolog. Wochensch.*, 1922, **23**, 15.

Xifalmilchinjektionen sollen wie kein anderes Mittel imstande sein, die Anfälle der Epileptiker energisch zu beseitigen. Die (intralglutaeale) Injektion ist völlig schmerzlos, hinterlässt keinerlei Nebenwirkungen und birgt keine Gefahren in sich wie Bromismus, Luminalexanthem u. s. w. Weitere Erfahrungen sind abzuwarten. W. RIESE (Frankfurt a/M.).

244. HEISSEN, F., Zur Prognose der schweren Kohlenoxydpsychosen. *Psychiat. Neurolog. Wochensch.*, 1922, **23**, 165.

Die Prognose der nicht-intervallären Kohlenoxydpsychosen soll nach Sibelius ungünstig sein. Dem widersprechen die Erfahrungen von Quensel und Levin. Der von dem Verfasser ausführlich mitgeteilte Fall beweist ebenfalls durch seinen Verlauf, dass weitgehende Besserungen bei den genannten psychischen Störungen vorkommen können. W. RIESE (Frankfurt a/M.).

245. JACOBI, W., Ueber die Beziehung des dichterischen Schaffens zu hysterischen Dämmerzuständen, erläutert an der Art Goethescher Produktivität. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 48-80.

Die Arbeit ist namentlich insofern verdienstlich, als zahlreiche Aeusserungen von Dichtern und über Dichter zusammengestellt werden, welche auf das dichterische Schaffen Licht werfen und seine Unterschiede von hysterischen Dämmerzuständen klarstellen. TH. ZIEHEN (Halle a/S.).

246. BECKER, W. H., Paul Morphy, seine einseitige Begabung und Krankheit. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 133-139.

Interessante Mitteilungen über den Schachmeister Morphy, der in chronischer Geisteskrankheit starb (Diagnose fraglich). Auffallend ist u. a., dass er für Mathematik wenig beanlagt gewesen sein soll. TH. ZIEHEN (Halle a/S.).

247. SCHAFFER, K., Tatsächliches und Hypothetisches aus der Histopathologie der infantil-amaurotischen Idiotie. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 570-616.

Die Ergebnisse dieser ausgezeichneten Arbeit liegen zu einem grossen Teil der Psychologie fern. Es sei hier nur hervorgehoben, dass nach Schaffer die infantil-amaurotische Idiotie ein Musterbeispiel einer Erkrankungsform gemäss der Keimblattwahl ist, insofern alle ektodermalen Elemente erkranken und alle mesodermalen völlig verschont bleiben. Die Heredodegeneration, auf deren Boden die Krankheit entsteht, ist geradezu durch diese Elektivität charakteristisch. TH. ZIEHEN (Halle a/S.).

248. BOETTIGER, A., Ein Fall von reiner motorischer Agraphie.
Arch. f. Psychiat. u. Nervenkrankheiten, 1922, 65, 87-103.

Es handelt sich, soweit die etwas summarische Krankengeschichte erkennen lässt, um eine reine motorische Agraphie infolge einer Schussverletzung (cheirokinaesthetische Form Bastians). Auf Grund des Röntgogramms (vgl. Fig. 3) und einer Besprechung der Literatur gelangt Verf. zur Annahme eines motorischen Agraphiezentrums im hintersten Abschnitt der ersten Temporalwindung, direkt unterhalb des Gyrus supermarginalis, als eines Zentrums der Schreibbewegungsvorstellungen. Das Bastiansche Zentrum im Fuss der zweiten Stirnwindung ist nach Verf. lediglich ein bewusst-koordinatorisches Zentrum für die Schreibmuskulatur. Analog soll das Zentrum der Sprechbewegungsvorstellungen in der Insel liegen und das Brocasche Zentrum nur ein bewusst-koordinatorisches Zentrum für die Sprachwerkzeuge sein. TH. ZIEHEN (Halle a/S.).

249. STEINER, G., Psychische Untersuchungen an Schwangeren.
Arch. f. Psychiat. u. Nervenkrankheiten, 1922, 65, 171-190.

Verf. hat über 80 Schwangere der Heidelberger Frauenklinik, grösstenteils ledige Dienstmädchen, Arbeiterinnen usw. in jugendlichem Alter (Ende des zweiten bis Ende des dritten Lebensjahrzehnts), nach den einfachen psychologischen Methoden der psychiatrischen Klinik untersucht. Vorwiegend handelte es sich um die späteren Monate einer *ersten* Schwangerschaft. Bemerkenswert sind folgende Beobachtungen: häufige Geruchs- und Geschmacksüberempfindlichkeit, in den ersten Monaten der Schwangerschaft stärker als später (*akustische* Hyperästhesie ist viel seltener, *optische* wurde nie beobachtet; keine objektiven Prüfungen!), Auftreten ausserordentlich rasch wechselnder Gelüste und zwar gewöhnlich *ohne jede äussere Anregung* und unter der Erscheinung des subjektiven *Zwangs*, Ubelkeiten und Ekelgefühle (Beziehungen zur Hyperemisis gravidorum), eigentümliche Affektverschiebungen gegenüber Personen (nicht nur negative! vgl. S. 181), Neigung zu Depressionen (bei gebildeten Frauen häufiger?), Labilität der Stimmung (Vergleich mit den menstrualen Stimmungsschwankungen!) usf. Anklänge an die sogenannten Graviditätspsychosen finden sich nicht. Ueber die biologische Bedeutung der beobachteten seelischen Veränderungen äussert Verf. einige z. T. ansprechende Vermutungen. TH. ZIEHEN (Halle a/S.).

250. TIMM, H. A., Ein Beitrag zur Lokalisation der amnestischen Aphasie. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 468-479.

Die amnestische Aphasie wird etwas ungeschickt definiert als "die Unfähigkeit eines Menschen, das jedesmalige Hauptwort von konkreter Bedeutung willkürlich hervorzubringen, obwohl es dem Kranken oft ungesucht einfallen kann, obwohl er dasselbe zu lesen und jederzeit nachzusprechen vermag." Das *Verständnis* für das richtig nachgesprochene Wort braucht nicht immer vorhanden zu sein. Hört der Kranke das fragliche Wort von einer anderen Person, so erkennt er es richtig. Der Unterschied von dem normalen Vergessen der Vokabeln einer fremden Sprache und von dem schlechten Gedächtnis für Namen (Personennamen) wird richtig angegeben. Der von dem Verf. mitgeteilte Fall zeigte als erstes Symptom neben Akgasmen (mit Krankheitsbewusstsein) einer solchen amnestischen Aphasie, später entwickelten sich mehr und mehr auch neue Störungen, namentlich auch Paraphasien verbalen und literalen Charakters und Versagen des Nachsprechens. Die Sektion ergab eine Geschwulst, welche das *Mark der 2. und 3. Temporalwindung* gestört hatte und nur an einer kleinen Stelle auf die Wernickische Stelle übergegriffen hatte. TH. ZIEHEN (Halle a/S.).

251. MÜLLER, B., Ueben einen Fall von Stirnhirnverletzung. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 206-224.

Mitteilung eines Falls von Durchschuss durch grosse Teile beider Stirnlappen (ohne Sektionsbefund!). Auf seelischem Gebiet "hochgradiger Mangel an Willensantrieb bis zu stumpfem emphorischen Hinbrüten mit stereotypem Lächeln"; ob auch ein wirklicher Intelligenzdefekt vorliegt, lässt sich nicht beurteilen. Die psychologische Untersuchung ist—wie übrigens in fast allen psychiatrischen Mitteilungen über solche Fälle—ganz unzureichend. In der interessanten Epikrise legt sich Verf. mit Recht grosse Zurückhaltung bezüglich der Beantwortung der Frage auf, ob zwischen Stirnhirn und Psyche wirklich eine engere Beziehung besteht. TH. ZIEHEN (Halle a/S.).

252. GLAESER, G., Versuche mit der Definitionsmethode an chronisch Paranoiden. *Monatssch. f. Psychiat. u. Neurol.*, 1922, **51**, 189-210.

Die Prüfung der Intelligenz mit Hilfe der Definitionsmethode, die namentlich von Gregor (vgl. *Monatsschr. f. Psychiatrie u. Neurologie*, 1914) systematisch verwendet worden ist, erwies sich auch bei chronisch Paranoiden als zweckmässig. Die in grosser Zahl mitgeteilten Beispiele bilden ein sehr interessantes Vergleichsmaterial für die Normalpsychologie. TH. ZIEHEN (Halle a/S.).

253. ALBRECHT, K., Hysterische Hautgangränen. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 544-569.

Die Psychologie hat im Wesentlichen nur ein Interesse an der Frage, ob überhaupt auf Grund von *Vorstellungen*, aktuellen oder latenten, bei der Hysterie Hautveränderungen im Sinne der Gangräne usf. vorkommen. Es ist sehr dankenswert, dass Verf. an der Hand einer kritischen Zusammenstellung (namentlich auch der angeblichen Fälle experimenteller Suggestion von Brandblasen) nachweist, dass kein einziger einwandfreier Fall vorliegt. Auch ein lehrreicher, eigener Fall solcher Simulation wird mitgeteilt. Dabei lehnt Verf. doch selbstverständlich die plumpen neuerdings vertretene Theorie einer vollständigen Identifikation von Hysterie und Simulation mit guten Gründen ab. TH. ZIEHEN (Halle a/S.).

254. KOPELOFF, N., and CHENEY, C. O., Studies in Focal Infection: Its Presence and Elimination in the Functional Psychoses. *Amer. J. of Psychiat.*, 1922, **2**, 139-156.

The investigation herein reported was stimulated by the claims of Cotton of the important rôle played by focal infection in psychoses, and the striking results said to have been obtained by the removal of these infections. Their investigations involve careful efforts to remove sources of possible error in diagnosing infections. The conclusions they reach are as follows: "1. The removal of infected teeth and tonsils from 27 cases showing manic-depressive, dementia precox, and psychoneurotic reactions has been followed by no more mental benefit than was shown by a comparable group of 33 patients from whom such supposed foci of infection were not removed. There were no recoveries nor distinct improvements other

than those prognosticated irrespective of focal infections. 2. The Rehfuss method of fractional gastric analysis is not to be relied upon as a means of determining gastric infection. The bacteria found in the stomach contents by this method may be derived for the greater part or entirely from the swallowed saliva." J. WALKER (Boston Psychopathic Hospital).

255. COTTON, H. A., The Etiology and Treatment of the So-called Functional Psychoses. Summary of the Results Based upon the Experience of Four Years. *Amer. J. of Psychiat.*, 1922, 2, 156-210.

The paper discusses the sources of focal infection, methods of locating them, and their rôle in psychoses. "We have produced evidence both clinical and pathological which should set at rest any doubt as to the accuracy of our deductions. The fact that many individuals harbor focal infections and are not insane is no argument against the doctrine that focal infections can cause insanity. . . . The type, specificity and severity of the infection, plus the patient's constitutional lack of resistance determine whether or not a psychosis will develop. Such factors as heredity and psychogenesis undoubtedly play an important rôle: more, however, we now think, in precipitating the psychosis rather than the principal etiological factor. The successful treatment of 1400 cases during the last four years with only 42 return cases now in the hospital must be accepted as evidence that our work has been efficient. The fact that our recoveries in the last four years average 80% of this group against an average of 37% for a period of ten years prior to 1918 should be convincing. Removal of all foci of infection, autogenous vaccine and antistreptococci and anticolon bacilli serum are essential to the proper treatment of these cases." A bibliography is appended. Much acid discussion follows the paper. J. WALKER (Boston Psychopathic Hospital).

256. COHOON, E. H., The Responsibility of the American Psychiatric Association in Relation to Psychiatric Nursing. *Amer. J. of Psychiat.*, 1922, 2, 211-220.

There is need to increase the number of psychiatric training schools for nurses; the position of the psychiatric nurse must be elevated; there must be improvement in the nursing and medical

care of the mentally ill. Suggestions are made how the American Psychiatric Association may help in such a program. J. WALKER (Boston Psychopathic Hospital).

257. BRYAN, W. A., An Efficiency Survey of the Worcester State Hospital. *Amer. J. of Psychiat.*, 1922, **2**, 221-234.

A statement of the technique introduced in the Worcester State Hospital for the accomplishment of greater administrative efficiency. J. WALKER (Boston Psychopathic Hospital).

258. GOSLINE, H. I., A Physiological and Anatomical Approach to a Classification of Mental Diseases. *Amer. J. of Psychiat.*, 1922, **2**, 235-257.

The writer urges the importance of a more adequate classification of mental disorders. He offers a physiological-anatomical-etiological combination, as, for example, such a term as "hypokinesis corticalis congenita." He stresses the need for the development of a critical social examination and for the hospitalization of persons suffering from social defect. He suggests the desirability of the classification of occupations both from the mental and the physical factors involved. J. WALKER (Boston Psychopathic Hospital).

259. TUCKER, B. R., The Internal Secretions in Their Relationship to Mental Disturbance. *Amer. J. of Psychiat.*, 1922, **2**, 258-272.

"Considering the whole subject of the relations of the glands of internal secretion to mental disturbances, we are, I think, justified in feeling that a very close relationship exists. It appears to be a fact that gross disorder of any of the most important endocrine glands may produce a mental syndrome the type of which coincides with known mental disorders and that practically all endocrine disorders are polyglandular, the disturbance of one gland, however, frequently being predominant." J. WALKER (Boston Psychopathic Hospital).

260. TERHUNE, W. B., The Clinical Activities of the Connecticut Society for Mental Hygiene. *Amer. J. of Psychiat.*, 1922, **2**, 273-284.

The creation of a division of mental hygiene by the Connecticut Department of Health, the first definite governmental recognition of

mental hygiene in the United States, was due to the work done by the Connecticut Mental Hygiene Society. It combines clinical work with its other activities. It has helped some 25,000 patients. J. WALKER (Boston Psychopathic Hospital).

261. BAGBY, E., The Etiology of Phobias. *J. of Abnor. Psychol. and Social Psychol.*, 1922, 17, 16-18.

A report on two cases, their symptoms, treatment, and recovery. The explanation and analysis of the cases obtain also, according to the writer, in Prince's "Bell-tower Case" and in the claustrophobia described by Rivers. "It seems clear that Freud's view is not required for explanation or treatment of the two cases presented." D. A. MACFARLANE (Boston Psychopathic Hospital).

10. INDIVIDUAL, RACIAL AND SOCIAL PSYCHOLOGY

262. YARROS, V. S., Social Ideals and Human Nature. *Open Court*, 1922, 36, 586-593.

Philosophers and reformers must not go too far in advance of the average human being, if they wish their projects to succeed. Ideals must be accessible to the majority. The recent works on social philosophy by Professors Dewey and Todd illustrate a commendable modern tendency to adjust plans of social reconstruction to human nature which is recognized as neither unalterable nor inimical to progress in the best sense of the word. C. M. DISERENS (Cincinnati).

263. MOSS, S. A., Evolution of Social Qualities. *Open Court*, 1922, 36, 532-553.

This is an excellent study from a purely mechanistic standpoint of the origin, nature, and social consequences of instinct. All reactions, whether of inorganic atoms, molecules and their aggregates, or of organized living matter, are inevitable responses to definite environmental conditions, and involve the same mechanical principles. The simple reactions of any configuration of matter differ only in number according to the complexity of the configuration. Instincts are complex reactions to environment including physiological organization, due to highly elaborate configurations of brain cells

evolved by natural selection and transmitted by heredity probably in Mendelian fashion. The social qualities or ethics of animals and human beings are matters of instinct, and hence must have been evolved by natural selection and the survival of the fittest. Already the instincts involved in cruelty, superstition, war and political associations, have been modified favorably, and we may conclude that "anything which will be good for the human race will inevitably become a predominating characteristic, be it physical or mental." C. M. DISERENS (Cincinnati).

264. FITZPATRICK, F. W., The "Law of Progress." *Open Court*, 1922, 36, 472-480.

The author assembles the opinions of representative authors of various schools for the purpose of showing that a "law of progress" is at present an unwarranted assumption. There may be such a law, but we do not know the conditions, the mutual relations of such conditions or the purpose of progress, which therefore remains undefined. The best evidences of progress are the persistent discussion of the topic, and the vague consciousness of a capacity for progress which has existed in every society. The sciences indispensable to a historical solution of the problem are still too young to be of service, and the discovery of the "Law of Progress," if there be such, must be a conquest of the future. C. M. DISERENS (Cincinnati).

265. YARROS, V. S., Remaking of Minds and Morals. *Open Court*, 1922, 36, 332-336.

This is a criticism of J. H. Robinson's "Mind in the Making." Mr. Yarros denies that humanity is fettered by obsolescent notions from the past which could be discarded at will. The so-called mere notions are as lively emotional factors functioning in the present as could be expected in a being of evolutional origin. Moreover, much of our social inheritance is sound and worthy of conservation, while that part which is not must be transformed rather than eradicated. C. M. DISERENS (Cincinnati).

266. HARDING, T. S., The Greatest Faith of All. *Open Court*, 1922, 36, 230-242.

Under this caption the author offers an interesting contribution to the psychology of Conformity which he regards as the real uni-

versal religion of mankind and the principal antagonist of human individuality. The creed, variations, and values of conformity are aptly illustrated by examples from contemporary life. C. M. DISERENS (Cincinnati).

267. BENEDICT, R. F., *The Vision in Plains Culture.* *Amer. Anthropol.*, 1922, **24**, 1-23.

The pursuit of the vision as a source of personal direction in the life of the individual is common to Indians from the Atlantic to the Pacific coast. There are also many uniformities in the mode of obtaining the vision as well as in the ceremonials and sanctions based upon it. In this paper special attention is given to the Vision among the Plains Indians, in which certain peculiarities are pointed out, while the relation of the Vision to supposedly characteristic social patterns is critically examined. The pursuit of the Vision on the Plains differs from that in other regions in its being an affair of Maturity and not of adolescence as is usually the case among other tribes. The Vision quest has been said to be characterized by (1) the infliction of self-torture, (2) the lack of a laity-shamanistic distinction, and (3) the attaining of a guardian spirit. A careful examination of the practices of Plains tribes, however, discloses that such relationship is far from constant. In particular, the infliction of self-torture often seems to be a pattern distinct from the vision quest, any relationship between the two being of very recent development. Distinctions between laity and nonlaity exist in certain tribes, e.g., Dakota and Pawnee, while the quest of the Vision does not coincide with the attainment of a guardian spirit, but is a much more general phenomenon. There are also localized patterns such as the purchase and inheritance of Visions among the Blackfeet and Hidatsa respectively. The Omahas arrange Visions in a hierarchy according to their objects, and a difference in psychological attitude characterized different tribes. Thus, the Crow regard the Vision as a mechanistic means of controlling conduct, while the Pawnee view it as a means of spiritual contact. The study leads to a conception of a diversity of psychological attitudes defying classification. C. M. DISERENS (Cincinnati).

268. ROBERTS, H. H., *New Phases in the Study of Primitive Music.* *Amer. Anthropolog.*, 1922, **24**, 130-144.

Indian music, which has been comparatively neglected by anthropologists, is perhaps the most important of all the arts, in

revealing the history of primitive Americans, since it combines the subjective evidence of words with objective features of structure. As it is chiefly vocal it, in common with ritual, preserves archaic forms of language, inadvertent references to intimate details of daily life, and examples of intertribal exchanges of culture. By means of the stylistic features of groups of songs, which often exhibit definite patterns, it is possible to trace the history of innumerable connected practices. In the present paper special attention is directed to Pawnee songs which are compared with those of the Sioux. A tendency toward structural patterns exists and may be used for comparative purposes, although the existence of nine culture areas, none of them adequately studied, makes many generalizations on Indian music unsafe. A few such may be laid down. Thus Indian music is usually monophonic. There are more songs in the major than in the minor key. There is no development of new ideas, but repetition of a few themes, although devices for intricate elaboration abound. Freedom of expression excels that of all but the most modern European or American music. Finally, the composition and execution of music is universal among Indians, not being confined to experts as among ourselves. C. M. DISERENS (Cincinnati).

269. REICHARD, G. A., The Complexity of Rhythm in Decorative Art. *Amer. Anthropolog.*, 1922, 24, 183-208.

An answer to the question whether primitive people have a definite plan in carrying out artistic ideas, is sought by means of a comparative study of the beadwork, embroidery, and other articles of handicraft of (Thomson River) Indian, Siberian and Roman origin. Rhythmic repetition in art objects is the principal theme of the paper, but interesting remarks on the color sense of the Indians and Siberians are included. The writer finds evidence of a universal desire to achieve a satisfactory effect. Effects of symmetry and regularity occur more often in the execution of design than of color. Variety is as highly prized as regularity, and is attained either by increasing the complexity of the design, or by simply changing the color. Where several colors are employed, all but one may be mere space-fillers. The artists include a few creators depending for their designs on inspirational dreams, and many imitators who achieve further differentiation in model designs by experimentation with materials and methods. C. M. DISERENS (Cincinnati).

270. CHAPMAN, J. W., Tinneh Animism. *Amer. Anthropolog.*, 1921, **23**, 298-310.

This is a comparison of the animistic ideas of two remote peoples, the Battaks of the Indian Archipelago, and the Tinneh of Alaska. Numerous parallelisms are indicated, the most important being: the common assumption of a universal soul stuff passing from individual to individual; the consequent belief in preexistence and reincarnation; the ascription of soul stuff to plants, animals and inanimate objects; belief in the power of souls to influence one another; connection of soul stuff with food, bodily secretions, and even personal names; intense fear of the dead; and a vague idea of a creator. These parallelisms with many others of a more special nature, illustrate the principle that widely separated peoples may possess a common method of reasoning concerning the phenomena of life. C. M. DISERENS (Cincinnati).

271. COLLOCOTT, E. E. V., The Supernatural in Tonga. *Amer. Anthropolog.*, 1921, **23**, 415-444.

Fundamental Tongan conceptions concerning the invisible world are discussed in this article, which treats of such topics as: tabu, mana, magic, ghosts and demonic possession. The tabu in the most general sense of the word is an attempt to define the relation of man to the unknown—to inculcate man's duty toward the occult. The range of ideas included under tabu extends from conceptions of religious sanctity to those of sympathetic magic. Crimes, or the violation of tabus, on the part of parents are supposed to produce physical stigmata in offspring. Tabus guarding social life in their most general form, forbid inferiors to touch superiors, thus giving rise to secondary systems of substitutional social behavior. Economic operations are likewise influenced, e.g., nonsuccess in fishing is attributed to broken tabus. The conception of mana, common to Tongans and neighboring Pacific tribes, signifies force or living power, or the seat of such power. Mana resides in men of distinction, weapons, and instruments. It is communicable from one person to another, and sometimes appears in the apparitions, as well as in ominous birds, animals or natural events of a striking nature. Divination, including telepathy, clairvoyance, augury, as well as sympathetic magic, were widely accepted and are still practiced. Belief in demonic possession still obtains. In short, the Tongan's

life and even his death, must involve a continuous adjustment to the supernatural. C. M. DISERENS (Cincinnati).

272. GARTH, T. R., A Comparison of Mental Abilities of Mixed and Full Blood Indians on a Basis of Education. *Psychol. Rev.*, 1922, **29**, 221-237.

Groups of Indians from the Plains and Forest racial stocks, including two or three Plateau Indians, were tested with nine standard tests (opposites; genus-species; part-whole; free association; logical memory; rote memory-concrete; rote memory-abstract; and two word-building tests). The Indians had had the same school training as indicated by grade attainment. An examination of the data shows that increased education corresponds to increased scores for both groups of Indians. Among other conclusions the data show that mixed bloods—the mixtures are with whites and a few with blacks—excell the full bloods by about 11 per cent in the performance of tests of higher mental processes. P. T. YOUNG (Illinois).

273. KASTAN, M., Asoziales Verhalten jugendlicher geistig abnormer Individuen in und nach dem Kriege. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 1-12.

Sehr interessante kasuistische Mitteilungen. TH. ZIEHEN (Halle a/S.).

274. HOLLINGWORTH, L. S., Differential Action Upon the Sexes of Forces Which Tend to Segregate the Feeble-minded. *J. of Abnor. Psychol. and Social Psychol.*, 1922, **17**, 35-37.

A statistical study made upon material furnished by the Clearing House for Mental Defectives, at The Post Graduate Hospital, in New York City, and by the Children's Hospital of Randall's Island. The study is replete with graphs and tables. The writer draws the following conclusions: (1) More males than females are brought in New York City for mental examinations, as suspected mental defectives. (2) More males than females are committed to the municipal institution for mental defectives in New York City. (3) Males and females brought for mental examination as suspected mental defectives, and those so committed are not equally distributed with respect to birthday age. (4) Males and females, brought for mental examinations as suspected mental defectives, and those so committed, are

not equally old, mental age for mental age. (5) Males and females suspected of being mentally defective, and those segregated as such, are not equally stupid, age for age. (6) Institutional statistics, showing merely the numerical ratio of the sexes to each other among inmates, are invalid as an index of sex differences in frequency and amount of mental deviation, for the population at large. D. A. MACFARLANE (Boston Psychopathic Hospital).

275. REAM, M. J., Temperament in Harmonious Human Relationships. *J. of Abnor. Psychol. and Social Psychol.*, 1922, 17, 58-61.

The experimental method is used in the problem of human relationships. A group of seventy-five men, enrolled in the School of Salesmanship at the Carnegie Institute of Technology, were divided into a mobile, "rapid fire" group and a "deliberate" group on the basis of records made in the Carnegie series of group will-temperament tests. After having spent four hours a day daily in field work, the men answered a questionnaire or straw vote in such a way as to suggest the following conclusions: "(1) Men of the mobile type are more popular than the men of the deliberate type. The difference in the percentage is more than three times the error of the difference. (2) Men of mobile type prefer to work with men of their own type, other things being equal. The difference in the percentage is more than four times the error of the difference. The "rapid fire" man wants fast people to assist him. (3) Persons of deliberate type are evenly divided in their preferences. As a group they like to work with either type. Other factors than mobile-deliberate tendencies determine the choice." D. A. MACFARLANE (Boston Psychopathic Hospital).

276. KANTOR, J. R., How is a Science of Social Psychology Possible? *J. of Abnor. Psychol. and Social Psychol.*, 1922, 17, 62-78.

An attempt is made to place social psychology upon a stimulus-response basis. It is brought out that the distinction between social and individual action lies in the character of the stimulating situation. ". . . an individual reaction is a response to some natural object or condition, the social or group reaction is a response to an institutional object or situation." "An institutional stimulus, then, is any object, action or circumstance which calls out a common

reaction in the members of a particular group." The notion that the instincts are springs of human activity is criticized. So also is what the writer calls the physiological attitude in psychology. And as to the value of his formulations, ". . . the value of any scientific hypothesis lies in its functional service in the interpretation of the facts from which it is derived, so here we find that the sole demonstration of the theoretical or practical value of the hypothesis of the social mechanism lies in the insight it affords us into various important problems concerning social phenomena." A number of these problems are considered in the last part of the paper. D. A. MACFARLANE (Boston Psychopathic Hospital).

277. WEMBRIDGE, E. R., Work With Socially Maladjusted Girls. *J. of Abnor. Psychol. and Social Psychol.*, 1922, 17, 79-87.

A description of the work carried on by the Women's Protective Association of Cleveland, Ohio. This agency was organized when the abolition of the restricted district of that city emphasized the problem of the delinquent girl. The writer has classified the cases with respect to the type of delinquency, given average I. Q.'s, and drawn attention to the peculiar problems that certain of these types present. D. A. MACFARLANE (Boston Psychopathic Hospital).

278. SCHAUPEL, Z., A Review of Some Present Tendencies in Social Psychology. *J. of Abnor. Psychol. and Social Psychol.*, 1922, 17, 93-103.

The first part of the article presents various opinions currently held with regard to the notion of instincts, ranging from Trotter and McDougall to Kuo. The last part deals with the entitled subject, giving the views of such writers as Park, Giddings, Durkheim, Gault, Eliot, *et al.*, which have as comprehensive a range as the previous views of instincts. D. A. MACFARLANE (Boston Psychopathic Hospital).

279. COE, G. A., A Study in Civic Training. *Ped. Sem.*, 1922, 29, 205-231.

How far does knowledge affect attitude? How far does participation in group activities develop sociality? These two questions were attacked by means of free association group tests, in which the responses to the stimulus words were classified into knowledge (or,

nongroup-participation) reactions and attitude (or, group-participation) reactions. Children of certain Massachusetts cities, especially Grafton, were used as subjects, some of whom had been trained in the usual form of school room, others in rooms operated on a plan of free pupil group participation in all work. The latter children scored slightly lower in the number of knowledge reactions but both relatively and actually a little higher in the number of civic-social reactions. Correlations of different variables involved were found by one or the other of two tests used to be: civil knowledge and sociality, .39; group participation and sociality, .55; age and sociality, .15 and .19; age and civic knowledge, .59; age and group participation, .25. The clearest principle indicated by these results is that socialized attitudes are best developed by opportunities for voluntary group participation. Incidentally, the group association test is demonstrated to be useful for measuring both information and attitudes, provided that certain precautions be used. J. F. DASHIELL (North Carolina).

11. MENTAL DEVELOPMENT IN MAN

280. ALMACK, J. C., The Influence of Intelligence on the Selection of Associates. *Sch. and Soc.*, 1922, **16**, 529-530.

Children in grades 4 to 7 were tested by means of the National Intelligence Tests, and were asked to give the name of a boy or girl whom they would select to work with and similarly to play with. Correlations between chronological ages and mental ages of associates range from 42 and 54; between I. Q.'s from 30 to 41. The author concludes that an individual shows a tendency to select his associates from those of his own mental level. R. PINTNER (Columbia).

281. JORDAN, A. M., Notes on Racial Differences. *Sch. and Soc.*, 1922, **16**, 503-504.

Compares the scores on the National Intelligence Tests of 1502 whites and 247 negroes, being a random sampling of each race attending the schools of Fort Smith, Arkansas. The children ranged in age from ten to fourteen, and the median score of the whites was decidedly above that of the negroes at all of these ages. In terms of mental age, the difference varies from one and one-half years at

age ten to three years at age fourteen. There is considerable overlapping, since 20 to 26 per cent of the negroes reach or exceed the medians of the whites. R. PINTNER (Columbia).

282. MYERS, G. C., Validating Intelligence Tests. *Sch. and Soc.*, 1922, 16, 612-614.

Criticizes the assumption that the correlation of a single test with a composite of several tests is a proof of the value of the test. Stenquist's composite of six tests includes five language tests and hence the Myers Mental Measure would naturally not correlate highly with this composite. Similarly Franzen's assumption that a test, which correlates positively and high with the total of a number of tests, is a better instrument than one which correlates either positively and low or negatively, is open to question. It all depends on the tests which form the composite. Franzen's composite is weighted as 10 to 4 in favor of linguistic tests. Real test validation must wait for a study on thousands of children stretching over ten or more years. R. PINTNER (Columbia).

283. MACPHAIL, A. H., The Correlation between the I. Q. and the A. Q. *Sch. and Soc.*, 1922, 16, 586-588.

Intelligence and educational tests were given to many different school grades. The coefficients between I. Q. and A. Q. range from minus .02 to minus .71. For 409 cases in grades 5 to 8 inclusive, the coefficient is minus .50. These data emphasize the fact, noted recently by many workers, "that existing standards of achievement in the elementary school are better suited to the slower pupils than to either the normal or the superior pupils." Normal and superior children are not working up to their capacity. R. PINTNER (Columbia).

284. PIAGET, J., Essai sur la Multiplication Logique et les Débuts de la Pensée Formelle chez l'Enfant. *J. de Psychol.*, 1922, 19, 222-261.

In order to determine the basis for formal thinking in children, the author used a number of problems of a mathematical sort. The children ranged in age from seven to thirteen years. A great many introspections are quoted. Each problem is discussed separately. The author finds that the appearance of formal thinking appears at

about eleven years of age along with the state of reflection. It is simply a greater clearing of the mechanism of organization. The relation of this to the fields of attention is discussed. S. W. FERNBERGER (Pennsylvania).

285. MURSELL, J. L., The Ontogenetic Significance of Instinct, Habit, and Intelligence. *Psychol. Rev.*, 1922, **29**, 163-180.

The author discusses critically the definition of the terms "instinct," "habit," and "intelligence" and the interrelations of the three concepts. Instincts are responses determined wholly by inherited structure. "The instincts constitute the basic tendencies or impulses of the individual, and can be modified but not eliminated by habit. The value of habit is that it adapts original tendencies to a complex environment, and makes action more successful and more intelligent." Intelligence is regarded by the author as an equivalent of efficiency in solving problems set by the environment. P. T. YOUNG (Illinois).

286. TERMAN, L. M., A New Approach to the Study of Genius. *Psychol. Rev.*, 1922, **29**, 310-319.

Three stages in the study of genius during the last century are noted. In the first, the method is impressionistic and anecdotal. In the second, the method is inductive, the cases being selected on the basis of objective criteria and treated statistically. In the third, marked by Cattell's study of living American men of science, the selection of cases is accomplished by vastly improved methods. The next step in the study of genius is an examination of gifted children. This work has been commenced at Stanford University. The writer presents concisely a number of significant, but tentative, conclusions. P. T. YOUNG (Illinois).

287. WITMER, L., The Analytic Diagnosis. *Psychol. Clinic*, 1922, **14**, 129-135.

Starting with the assumption that Psychology is the science of Behavior, Professor Witmer attacks the problem of the observation of behavior from an analytic point of view. Behavior becomes a series of performances—each performance a series of operations. The result of a performance is a product; successful production assumes the presence of abilities (the diagnosis of an ability is a

prognosis of future production). *Competency* is an aggregate of abilities. Doctor Witmer presents some preliminary formulæ for proficiency, the measurement of which he calls the "demonstrable diagnosis." The citation and estimate of abilities, however, he describes as the "critico-impressionistic" or "analytical" diagnosis. For the analysis of competency Doctor Witmer has discriminated six universal categories of behavior. These he names, and further develops by contrasting each with the other five in turn, thus developing thirty different categories. These thirty categories of behavior are "the outline of a Psychology of Competency." With the article is presented a copy of the analytic diagnosis chart recently developed from the categories. Upon this chart may be plotted a psychograph. A. M. JONES (Pennsylvania).

288. JONES, A. M., Miss Inconsistency. *Psychol. Clinic*, 1922, **14**, 136-142.

This is a case study of an atypical child who is in no sense feeble-minded. This child was chiefly remarkable for the inconsistency of her reactions, and an analysis of her abilities is shown by a psychograph plotted upon the analytic diagnosis chart introduced in Doctor Witmer's article. A. M. JONES (Pennsylvania).

289. STARR, A. S., An Analytical Study of the Intelligence of a Group of Adolescent Delinquent Girls. *Psychol. Clinic*, 1922, **14**, 143-158.

A psychological study of three hundred delinquent girls between the ages of sixteen and twenty-five. The report is presented in two parts. Part I, Delinquency as I See It, presents the author's views as to the causes of delinquency, and stresses the need for the individual psychological examination to determine in each case the mental status, the possibilities of intellectual development, and the approximate range of possible occupations. Part II, Tests, Their Results and Correlations, offers a discussion of the tests given, and presents the statistical data. Conclusions are as follows: (1) The mental development of the delinquent girl is in most cases neither definitely above nor definitely below the standard accepted as normal. (2) In her mental equipment there are definite assets and specific defects, which must be taken into account if she is to be taught to function at her highest level of proficiency. (3) An analytical study

should be made in each case. (4) In many cases the "quality of the competencies" is defective, which makes the prognosis unfavorable. (5) Specific defects and deficiencies are reflected in the individual's behavior. (6) The competency motif in this group, measured qualitatively, shows a general mediocrity throughout, with complexity of movement, memory, imagination and intellect especially deficient. A. M. JONES (Pennsylvania).

290. IDE, G. G., The Increase of the Intelligence Quotient Through Training. *Psychol. Clinic*, 1922, 14, 159-162.

Doctor Ide reports a group of cases from a private institution endowed for the education of fatherless girls. A thorough psychological examination is given on entering the institution, and is repeated at intervals. This examination includes the Terman Revision of the Binet Series. Many of these children, coming from a very poor social and linguistic environment, have shown from time to time marked increase in the Intelligence Quotient, in one case an increase of sixteen points in two years. A. M. JONES (Pennsylvania).

291. LEAMING, R. E., Children Applying for Working Certificates (An Aspect of Vocational Guidance). *Psychol. Clinic*, 1922, 14, 163-179.

A report on 908 children between fourteen and sixteen years of age, applying for employment certificates. The study aims to make a beginning toward the consideration of employment conditions as they actually exist for children of this age. It contains tables and discussions regarding: (1) Distribution of cases for age and sex, (2) number of certificate for which the child is applying, (3) school grades completed, (4) reasons for leaving school (as reported by the child), (5) school standing, (6) how job was obtained, (7) the kind of work, (8) the wages, (9) the reasons for leaving former positions, and (10) plans for the future. After a discussion of each of these points Doctor Leaming stresses the facts that these children need to be taught to think in futures, as planfulness is conspicuously lacking and that they also need some organized system for securing definite information as to where opportunities for work exist in their community, and how they can best take advantage of them. A. M. JONES (Pennsylvania).

292. EASBY, C., An Investigation of Eighteen Children from an Orthogenic Backward Class, and Forty-three Suspects from Grades One to Six. *Psychol. Clinic*, 1922, **14**, 180-187.

A report of a careful psychological examination of eighteen children from an orthogenic backward class in a Philadelphia public school, including a brief description of typical cases and a general statement of the social background for every case, as well as the results of the tests. The suspects from grades I to VI were tested with the idea in mind of recommending placement in special class, if it seemed advisable. These cases as a group point to the active need of more restoration classes and diagnostic teaching in the school. The investigation also gives evidence of the benefit in efficiency of organization which the school might derive from systematic psychological grading of all children at entrance. A. M. JONES (Pennsylvania).

293. STEWART, W. B., Albert, A Lazy Boy. *Psychol. Clinic*, 1922, **14**, 188-190.

A report of a boy with considerable mechanical ability whose pedagogical retardation was partially the result of laziness and lack of confidence, and partially a lack of retention. A. M. JONES (Pennsylvania).

294. BROWN, H. W., A Contrast in Efficiency. *Psychol. Clinic*, 1922, **14**, 191-192.

A report on the clinical examination of two brothers, one of whom was a marked case of hydrocephaly. A. M. JONES (Pennsylvania).

295. GALANT, S., Praktische Intelligenz und moralische Imbezillität. *Arch. f. Psychiat. u. Nervenkrankheiten*, 1922, **64**, 339-382.

Verf. hält es für richtiger, nur vom "praktischen Sinn" und nicht von "praktischer Intelligenz" zu sprechen, weil ersterer nach seiner Auffassung bei einer erfolgreichen praktischen Betätigung das Primäre ist und die Intelligenz dem praktischen Sinn erst später "zu Hilfe kommen kann, um ihn weiter und fruchtbarer zu entwickeln." Seine Untersuchung ist der Frage gewidmet, wie praktischer Sinn und Intelligenz zusammenwirken, und knüpft an die Analyse dreier interessanter Spezialbeobachtungen an. Zur

Prüfung der "praktischen Intelligenz" werden 3 Tests empfohlen (Ergebnisse werden nur summarisch mitgeteilt). Zur Beleuchtung der Beziehungen zwischen Intelligenz und moralischer Imbezillität werden die Aufzeichnungen eines in der Irrenanstalt Rosegg internierten Verbrechers in extenso mitgeteilt. Das Strafrecht will Verf. von seinem Standpunkt aus "so mild, wie nur möglich" gestalten und auf "Geldbusen und Internierung in Irrenanstalten" beschränken. TH. ZIEHEN (Halle a/S.).

296. WALLIN, J. E. W., An Investigation of the Sex, Relationship, Marriage, Delinquency and Truancy of Children Assigned to Special Public School Classes. *J. of Abnorm. Psychol. and Social Psychol.*, 1922, 17, 19-34.

A statistical study which forcibly draws attention to the fact that "if the army mental age figures are at all trustworthy, radical revision of the concept of feeble-mindedness is inevitable." The figures quoted are from the records of the Psycho-Educational Clinic and Special Schools for Individual Instruction, in St. Louis, Mo. The study suggests, among other things, that the tendency for feeble-mindedness to run in families has probably been exaggerated, and that there is considerable evidence to support the view that a not insignificant percentage of the cases of feeble-mindedness are to be considered as chance mutations. The oft-repeated statements concerning the prevalence of delinquents among the feeble-minded are not taken as gospel, and the dismal picture of the feeble-minded child as potentially vicious and criminal is brightened with a few inexorable facts. D. A. MACFARLANE (Boston Psychopathic Hospital).

297. GRAVES, F. P., The Use and Abuse of Intelligence Testing. *Univ. of Penn. Bull.*, 1922, 23, No. 1, 18-24.

The author points out the importance of intelligence testing and indicates that it is not "a mere fad." The important thing which is standing in the way of the complete usefulness of the tests is that psychologists and educators have not succeeded in defining intelligence in an acceptable fashion nor in indicating of what factors it is composed. In order to secure an accurate index to the intelligence of any one we should be obliged to test his ability to think in all directions. S. W. FERNBERGER (Pennsylvania).

298. WITMER, L., What is Intelligence and Who Has It? *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 45-55.

Intelligence is defined as "the ability to solve a new problem." "When a problem is difficult enough, or the solution sufficiently novel and important, the intelligence displayed in successful invention will be considered genius." On the other hand, "education is the device of civilization to keep us from encountering new problems." No one has ever devised an intelligence test that tests intelligence and nothing else. Intelligence is displayed in a performance that succeeds against adverse odds; stupidity is failure despite favoring odds. S. W. FERNBERGER (Pennsylvania).

299. OTIS, A. S., Group Intelligence Tests: Their Value and Limitations. *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 55-67.

The author traces the development of mental tests in general and of group tests in particular. Certain limitations of the group testing are pointed out. One of the principal limitations is the unreliability of the group test as an indicator of the mental ability of the individual child. But if such a grouping of children is regarded as merely tentative, the author believes that the advantages of the group test far outweigh the limitations. S. W. FERNBERGER (Pennsylvania).

300. KING, L. A., Fifth Annual Report of the Bureau of Educational Measurements, University of Pennsylvania. *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 67-95.

The bureau has during the year applied a large number of educational and intelligence tests. A large number of children of different ages have been tested. The results are given in a large number of tables. The author suggests caution in the use of intelligence tests and educational tests as the basis of promotion in the schools. Children of the eighth grades in various school districts were tested and a variation of as much as two and three years mental age was found between some of the districts. S. W. FERNBERGER (Pennsylvania).

301. MAHONEY, D. J., Use of Intelligence and Achievement Tests for Making Educational Readjustments and in Developing Future School Policies. *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 95-100.

Report of a series of tests made in Wilkesbarre with the Illinois Examination II, Form I. S. W. FERNBERGER (Pennsylvania).

302. HENDERSON, B. R., Report on Illinois Examination Given to the Sixth, Seventh, and Eighth Grades in West Chester. *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 100-103.

Development of a school policy as the result of the study of the results of testing three grades by the Illinois Examination. S. W. FERNBERGER (Pennsylvania).

303. MENDENHALL, H. M., Aids to Supervision Obtained from a Study of the Results of the Illinois Examination. *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 103-106.

The Illinois Examination was given to children of Grades III to VIII. As a result of this examination and the study of the individual records, the author was able to diagnose certain defects in the school system. S. W. FERNBERGER (Pennsylvania).

304. COX, P. W. L., Providing for Individual Differences by Means of Grouping by Abilities. *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 233-244.

Results of grouping of children in the upper secondary grades by special abilities to indicate which of the several high school courses should be followed. Various forms of informal groupings provide for the individual abilities in such a scheme. S. W. FERNBERGER (Pennsylvania).

305. ROBBINS, C., Initial Grouping of Pupils. *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 244-248.

Grouping on the following four bases are discussed: Marks of pupils in elementary schools, achievement tests, mental tests and a combination of these. The author advocates the latter method. S. W. FERNBERGER (Pennsylvania).

306. SPAIN, C. L., Grouping of Children by Abilities and Consequent Changes in School Procedure. (1) Procedure in Detroit. *Univ. of Penn. Bull.*, 1922, **23**, No. 1, 257-263.

Description of the method of grouping children in the seventh, eighth and ninth grades in the Detroit schools. Special tests have been devised. The children are divided into three groups and the limits of attainment for each group in the different studies are indicated. S. W. FERNBERGER (Pennsylvania).

307. RAPP, A. A., Grouping of Children by Abilities and Consequent Changes in School Procedure. (2) Procedure in Reading. *Univ. of Penn. Bull.*, 1922, 23, No. 1, 263-267.

Results of testing children of the seventh and eighth grades in Reading, Pa. A tentative classification is made on entrance by the Terman Group Intelligence Test. Teachers' estimates and the Illinois Examination II have recently been used. S. W. FERNBERGER (Pennsylvania).

308. KUNTZ, E. E., Grouping of Children by Abilities and Consequent Changes in School Procedure. (3) Procedure in Lansford. *Univ. of Penn. Bull.*, 1922, 23, No. 1, 267-269.

The grouping is made primarily on the basis of a large number of group intelligence tests taken in consideration with teachers' ratings. S. W. FERNBERGER (Pennsylvania).

309. CARBACK, C., Grouping of Children by Abilities and Consequent Changes in School Procedure. (4) Procedure in Philadelphia. *Univ. of Penn. Bull.*, 1922, 23, No. 1, 269-272.

Grouping by abilities has not been universally adopted in Philadelphia. The author emphasizes the special rosters and the instructional changes necessitated by such a grouping. S. W. FERNBERGER (Pennsylvania).

310. EVANS, O. D., The Application of Job Analysis to Planning Lessons for Continuation Schools. *Univ. of Penn. Bull.*, 1922, 23, No. 1, 272-275.

The author believes that the essential principles of job analysis are: what to teach, when to teach and how to teach. S. W. FERNBERGER (Pennsylvania).

311. YOUNG, K., Intelligence Tests of Certain Immigrant Groups. *Sci. Mon.*, 1922, 15, 417-434.

The army tests showed a larger percentage of low grade and a smaller percentage of high grade intelligence among draftees of South and East European Stock than among those of North European. V. Dickson's and Mildred Thomson's Binet measurements of California school children show lower I. Q.'s for Spanish, Portuguese, and Italians than for Americans of North European ancestry, the former averaging .8 the average intelligence of the

latter. Miss K. Murdoch's study with the Pressey scale of New York City school children shows lower intelligence for Italians and Negroes than for Jewish and "Americans." In a study of California school children of South Italian, Portuguese, and Spanish-Mexican ancestry the writer used several criteria: location in school grades, teachers' estimates, school marks, and the army Alpha and Beta tests. In the Alpha the Latins are decidedly inferior to the Americans; in the Beta less so. Emphasis is laid upon the former test because the other criteria agree with it, because the Beta test appeared too easy for some American twelve year olds, and because there was no clear language handicap in Alpha for the Latins. In the Alpha test the percentages reaching or exceeding the American median score were, Italian, 7.; Portuguese, 10.; Spanish-Mexican, 6.8; in the Beta test they were respectively, 18., 13.75, and 15.5. These results are of interest in contrast with those of preliminary studies of Japanese and Chinese in California, in which these compared very favorably with Americans. It would appear that a continual deluge of this country by weaker stocks would inevitably affect the average intelligence of the population, and that methods of control of immigration in terms of intelligence are needed. It is recommended that an adequate governmental appropriation be made for the devising of satisfactory immigrant tests by a group of psychologists, organized through the National Research Council.

J. F. DASHIELL (North Carolina).

312. GESELL, A., Pre-School Hygiene of Handicapped Children.
Ped. Sem., 1922, 29, 232-246.

It has not been sufficiently recognized that, as most handicaps of children are inherited or acquired in infancy, they should be given definite attention before the school age. (I) About four-fifths of cases of acquired blindness are ascribable to diseases, the remainder to accidents, and in addition to preventives against these, proper development of self-reliance is important. (II) Unlike blindness, the vast majority of cases of deafness are acquired at birth or during infancy, mainly from scarlet fever and meningitis. Pedagogically, the deaf infant and young child should be encouraged in speech development, as by lip reading. (III) The prevention of crippling through infantile diseases mainly calls for medical attention, but also the maintenance of morale in cripples calls for psychological attention. (IV) Malnutrition has been too much slighted before

school age, and rickets and dental caries are some of the results. (V) Psychoneuroses and forms of dementia precox indicate psycho-genetic origins in early childhood. (VI) Probably many cases of juvenile and even adult delinquency are traceable to faulty development in early childhood. (VII) Seventy-five per cent of all cases of speech defect originate in the preschool period and most of these are definitely curable by early educative methods. (VIII) If the mentally subnormal are given special attention in school years they ought to have a sub-kindergarten training earlier. J. F. DASHIELL (North Carolina).

12. MENTAL EVOLUTION

313. RIEKEL, A., Psychologische Untersuchungen an Hühnern.
(Ueber den Vergleichsvorgang und damit zusammenhangende Fragen, besonders auch über das Farbensehen der Hühner.) *Zeits. f. Psychol.*, 1922, 89, 81-115.

Diese, unter Leitung von E. R. Jaensch entstandene Untersuchung beschäftigt sich im wesentlichen mit dem Vergleichsvorgang bei Hühnern. Auf verschiedenen grauen Feldern werden den Hühnern Körner dargeboten, wobei—unabhängig von der absoluten Helligkeit der Felder—nur das Fressen von dem jeweilig helleren, resp. dunkleren Feld erlaubt ist. Die sorgfältig und an grossem Material durchgeföhrten Versuche ergaben, dass der Vergleichsvorgang ursprünglich auf der Wirksamkeit von Uebergangserlebnissen (vgl. Schumann, Jaensch) beruht. Hühner berücksichtigen bei bunten Farben mehr deren Helligkeit als den Farbton. Streckengrössen vermögen die Hühner nicht zu vergleichen, offenbar weil sie biologisch indifferent sind; wohl aber Flächengrössen. Dass auch bei sukzessiver Darbietung der Objekte derartige Uebergangserlebnisse nachweisbar waren, spricht gegen Köhlers Strukturfunktions-theorie.—Versuche an Kindern von 2-4 Jahren ergeben ein ähnliches Verhalten wie die Hühner. Schon auf dieser Stufe, vor allem aber bei der weiteren Entwicklung der Kinder macht sich der Einfluss der Sprache auf den Vergleichsakt (zum Teil in einer Hervorhebung des absoluten Eindrucks) geltend. Als Nebenresultat der Untersuchung ergibt sich, dass Hühner nicht blau-blind sind, sondern nur für blau eine herabgesetzte Empfindlichkeit zeigen. O. KROH (Göttingen).

314. DYE, W. J. P., The Relation of the Lateral Line Organs of *Necturus* to Hearing. *J. of Compar. Psychol.*, 1921, 1, 469-471.

Experiments with a vibrating wire in an aquarium on normal and neurotomized mudpuppies reveal the fact that in the normal mudpuppy reactions of the gills give evidence of a functioning of the lateral line organs similar to that of hearing and that in the mudpuppy whose lateral line organs have been severed these gill reactions are lacking. Twenty-one days after the dissection the animal has regained its lost gill functions by reason of the nerve regeneration. Six references to the literature are given. H. R. CROSLAND (Oregon).

315. HAMILTON, W. F., Coördination in the Starfish. I. Behavior of the Individual Tube Feet. *J. of Compar. Psychol.*, 1921, 1, 473-487.

After citing the literature on the extension and retraction of the tube feet of the starfish, Hamilton, by diagrams and by verbal exposition, presents the results of his own experiments on *Pycnopodia*, *Asterina*, and *Pisaster*. It was found that: (1) *Pisaster ochraceus* exhibits three well-defined physiological states,—of "locomotion," "activity without orientation," and "rigidity,"—which influence the responses of the animal's tube-feet and arms; (2) extension, in any of the three states, is spontaneous and occurs in an isolated, water-inflated tube foot; (3) attaching is a product of the physiological state, most frequently, of rigidity; (4) withdrawal is a response to contact stimulation; (5) the step-reflex intergrades with the withdrawal response stimulated by contact with the ambulacral disk and is conditioned also by the locomotor orientation of the tube-feet; (6) the tube-foot is attached much more strongly during the first part of the step-reflex; and (7) its attachment force is from 2.8 (*Asterina*) to 2.06 (*Pycnopodia*) times its pulling force. H. R. CROSLAND (Oregon).

316. HAMILTON, W. F., Coördination in the Starfish. II. Locomotion. *J. of Compar. Psychol.*, 1922, 2, 61-75.

In the second of a series of papers on the coördination of the starfish, Hamilton discusses the findings of previous workers, notably of Von Uexkull, Mangold, Romanes, Ewart, Preyer, Jennings, Loeb, and Cole (the bibliography presented contains 19 references), and

presents his own findings. Five interesting figures of the movements of starfish are used. The results of his investigations were as follows: (1) the coördination of the tube-feet of the rigid starfish is simply a spreading of extension and retraction, mediated by a simple nerve set, and may result from contact stimulation of the dermis or of the tube-feet, and may involve the whole animal in positive locomotion; (2) rays stimulated by contact with separate and independent substrata will contain tube-feet which walk toward the tip of each ray, consequently in five different directions; (3) autotomy of a harmful sort results from the sluggishness of the central part of the ambulacral system, preventing the spreading of orientation of the tube-feet to all rays, resulting finally in the rays, each pulling in its own direction, parting company; (4) partly due to mechanical orientation, an animal may pull away and free itself from one imprisoned ray, thus presenting a case of adaptive autotomy; (5) negative locomotion results from retraction of the tube-feet on the ray stimulated, and because the farthest tube-feet from the ray stimulated soonest resume their activity and because this activity spreads to the whole animal in the direction of orientation of the farthest tip from the stimulus the locomotion is negative; (6) the same factors governing orientation also initiate orientation, abetted by mechanical factors especially in the deviation reaction; and (7) evidence drawn from neurotomized starfish, from starfish separately stimulated by different substrates, and from the mechanics of the deviation reaction conduces to the hypothesis that the adaptive yet diverse orientation in the righting and deviation reactions can be explained by reference to the traction on the tube-feet resulting from the movement of the rays over the substrate. H. R. CROSLAND (Oregon).

NOTES AND NEWS

THE Psychology Department of the Ohio State University announces the following additions to its staff: Herbert H. Goddard, full professor; Robert D. Williams, assistant professor; Marjorie Bates, instructor. The following promotions have also been made: Harold E. Burtt to full professor; A. Sophie Rogers to assistant professor.

PROFESSOR L. WINFIELD WEBB, professor of psychology, has been named by President Walter Dill Scott as director of the mental alertness tests which will be made by Northwestern University on the 1,000 freshmen that are expected to register this fall.

A limited number of copies of the Titchener Commemorative Volume are left in stock. Since the sales to date have more than paid the costs of the edition, the committee in charge of publication has decided to offer these remaining copies to psychologists at the reduced price of two dollars, postpaid. The proceeds of their sale, together with the balance already in hand, will be funded, and the interest will presently be used to establish a prize for meritorious work in experimental psychology. Orders may be sent to D. R. Knight, Morrill Hall, Cornell University, Ithaca, N. Y.

DR. L. A. PECHSTEIN of the University of Rochester has been appointed Dean of the College of Teachers at the University of Cincinnati.

THE courses offered by the New School for Social Research, New York City, include "The Significance of Modern Philosophy," by Professor John Dewey; and "Behavior Psychology," by Dr. John B. Watson of the J. Walter Thomson Company.

DR. F. I. WERTHEIMER, recently connected with Professor Kraepelin's clinic at Munich, has become a member of the staff of the Henry Phipps Psychiatric Clinic at the Johns Hopkins Hospital.

DR. ETHEL BOWMAN, who has been the head of the department of psychology at Goucher College, Baltimore, since its formation in 1917, has been made full professor. Miss E. J. Rutherford, of the University of Illinois, and Miss M. Potter, of Johns Hopkins, are instructors in the Department.

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